

THE CULTIVATOR:

A CONSOLIDATION OF BUEL'S CULTIVATOR AND THE GENESEE FARMER.

"AGRICULTURE, AT ONCE THE CAUSE AND EVIDENCE OF CIVILIZATION."

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THE CULTIVATOR.

WILLIS GAYLORD & LUTHER TUCKER, EDITORS.

STATE AGRICULTURAL SOCIETY.

Some of the readers of the Cultivator are aware that a proposition has been made, that semi-annual meetings of the State Agricultural Society shall be held in the autumn of each year, in connection with some County Agricultural Society, and at some central point in the several districts, as the means of giving greater efficiency and activity to the institutions respectively, and as a matter of course, conferring proportional benefits on the agriculture of the state. We regret to state that the late period at which the proposition was made, and the long time necessary to perfect the arrangement, has induced the officers of the State Society reluctantly to defer the fall meeting, at least for the present year.

We are fully convinced that no better method has yet been proposed of awakening an interest in the prosperity of the State Society, and reflectively in those of the counties, than the one of having fall meetings as has been proposed, at which premiums shall be liberally distributed, and the show of animals, implements, &c. be such as to induce farmers from all parts of the state to attend. We are the more convinced of the correctness of this opinion, from observing the effect which such ambulatory meetings has on other societies. There can be little doubt, that much of the intense interest which attaches to the semi-annual meetings of the British Society for the promotion of Science, is caused by the fact of their being held at different places. The first meeting of the Royal English Agricultural Society was held at Oxford; the second at Cambridge, and the next is to be held at Liverpool; and in succession all the principal cities of the kingdom, or agricultural districts, will thus be visited.

It is this system of annual removal which has given such efficiency and energy to that noble institution, the Scotch Agricultural Society. Last year the meeting was at Glasgow, this year it is at Berwick; next year at Aberdeen; and so visiting the several counties of Scotland, benefiting and improving all. We have now before us a list of the premiums offered by this society for the present year, nearly three hundred in number, and varying from \$2,500 for a steam machine for plowing, down to five dollars for a cottage window. There is scarcely an article embraced in the whole circle of rural economy, which is not here encouraged by premiums. Essays on every important and debatable question of agriculture; the best methods of breeding, rearing and training all our domestic animals; the merits of the several systems of rotation and plowing shown by actual experiment; the cultivation of wood and timber lands; grain, its enemies, and the means of avoiding them; domestic manufactures, cottages, gardens, in short all that can awaken attention to, or promote agriculture; all that can give beauty, health, and prosperity to the country, are here noticed, and the industrious occupant of the soil, or the ingenious mechanic, invited to avail themselves of the liberal and numerous rewards offered for their encouragement.

We are unable to see why similar beneficial results might not flow from a corresponding movement here. Confined to a single point, either of the societies we have noticed would have effected little; now, they have done wonders; and we have seen enough of the meetings of agricultural societies in this state, and their influence, to believe that a movement of the state agricultural society's meetings would be productive of essential service to the farmers of the state. They would stimulate to exertion; they would bring farmers in contact with each other; they would, by their exhibitions of animals, implements, articles of domestic manufacture, grains and plants, show the improvements that had been made, and encourage all to attempt much; and they would add to the funds of the societies interested, so that premiums sufficient to call out the public, would be at once at the disposal of the managers. For these reasons, we trust that such autumnal meetings, may be adopted. New-York, Poughkeepsie, Albany, Plattsburg, Watertown, Utica, Syracuse, Ithaca, Rochester, and Buffalo, are points at which the farmers of the state or the several districts might meet in rotation, we think with decided pleasure and profit, while the winter sessions of the state society might be continued as usual.

WHEAT CULTURE.

Of all the crops cultivated in the northern or middle part of the United States, the crop, par excellence, is unquestionably wheat. Its intrinsic value as an article of food, its importance as an item of export, its influence on trade, and its vast sway in regulating the exchanges and commerce of the world, render it every where a crop of the greatest consequence, and particularly so in this country. To raise good wheat many things must be kept in view; the nature and texture of the soil—its quality, so far as richness or poverty is concerned—the kind of wheat most suitable for cultivation under the circumstances of the case—the cleanness and preparation of the seed—the time and method of sowing—and in short all the things that go to ameliorate the soil and secure a crop, must be attended to, rendering the growing of wheat one of the most arduous as well as profitable occupations of the farmer.

A good wheat soil always contains considerable clay, but it is so balanced and corrected by other ingredients as never to be cold and sour; if such is the character of any soil, good wheat need not be expected. Freedom from superfluous moisture or stagnant water, is an indispensable condition of a good wheat soil; and when such exemption does not naturally exist, it must be produced by draining. A moist cool climate is found not to be unfavorable to wheat, if the roots are preserved from stagnant water, and are allowed to range in a pervious soil; but in any climate wheat will fail where the soil is saturated with water that does not circulate. To give the requisite dryness and depth where they do not exist, draining and deep plowing may be relied upon, and where these go together, with proper manuring a soil can scarcely fail to improve, or to be productive.

Deep plowing, on most lands as they naturally are, and on all lands as they should be made, is essential to good wheat crops. The roots of this plant penetrate in a permeable soil to a great depth, and spread to a considerable distance. The single fact of its being provided with two sets of roots, one of which spreads near the surface, and the other strikes deeply, is a sufficient proof of the necessity which exists for deep plowing in its culture. In a few instances subsoils may be found which will not admit of deep plowing, being composed of materials injurious to the wheat crop; but great crops of wheat are not to be expected on such soils.

The application of manures is a very essential point in growing the wheat crop. Land can be too rich, as well as too poor for wheat, or rather the manure in the soil may be in that condition which renders it unsuitable for wheat. There are some crops on which fresh or unfermented manure exercises a good effect, and to which it can scarcely be applied in too large quantities, corn for instance; while on others they produce results of the most unfavorable kind. Nearly all the cerealæ are injured by fresh manures, the stalk growing too vigorous, while the berry is usually imperfect. Compost manures, or such as are made by layers of turf, stable manure, vegetable mold, lime, &c., in which the decomposition is already effected, can scarcely be applied too abundantly to land otherwise well constituted. The great crops obtained around old barns, or other decayed or removed buildings, is a proof that large quantities of decomposed manure may safely be used, while a much less quantity of fresh or undecomposed would be fatal. One of the greatest evils of direct manuring for the wheat crop arises from the liability of the grain so manured to lodge. The rapid growth of the stem renders it unable to support its own weight, it is soft and flexible, contains much less silex than those grown in a poorer soil; the wheat does not usually perfect its berry, and at all times, from the thinness and weakness of its skin or cuticle, is more liable to mildew or rust. These things render it certainly inadvisable, unless the land is very poor and reduced, to apply unfermented manure to wheat.

The rotation of crops, has furnished the means of applying fresh manure advantageously to crops, and at the same time retaining its principal value for wheat. The cultivation of corn or roots in alternation with grain crops, clover, &c., gives the farmer the means of greatly increasing his crops, and at the same time constantly improving his soil. It may be considered as a settled maxim in agriculture, that land improves little or none while nothing is growing upon it. It is the general acknowledgment of this truth, that has substituted hoed or green crops for naked fallows, in the preparation of lands for wheat. Peas and clover are among the best green crops to precede wheat, and the latter may be considered inseparable from the successful culture of this grain. Corn would be one of the very best crops to precede wheat, could it in all cases be removed from the land in season to get in the wheat properly. The thorough manuring and tilling required for corn, puts the ground in good condition for wheat; and should ex-

perience prove that very late sown wheat is more safe from danger in winter, and more productive than that sown a little earlier, a result said to be established in some of the best wheat countries of Europe, the crop of corn would cease to be objectionable, and might be considered as nearly a clear gain.

There is a practice which has prevailed to a considerable extent in our wheat producing districts, of growing wheat after wheat several times in succession. Such a system of farming deserves the severest reprehension, and will never be adopted, except by those who are in a haste to be rich, no matter at what price, and in defiance of acknowledged consequences. Farmers may have succeeded in raising good crops in this way, where the soil was of the fine quality and excellent adaptation to wheat of much of our western land, but nothing short of the most imperious necessity can justify this procedure, or tolerate such a departure from the correct principles of cropping. Land, which has once produced good crops of any kind of grain, may again be made to produce them; and under skilful treatment lands would never cease to yield good crops, where their first cultivation proved the adaptation of the soil to that particular one. The worn out and exhausted soils of New-England can be made to produce as good and as plentiful crops of wheat as they formerly did, but the labor and cost of restoring would be infinitely more than would have been required to have kept them continually fertile and productive. Crops have a specific food, which may be more or less plentiful in a soil, and without which they cannot be brought to perfection. Take for instance a worn out eastern farm. A liberal supply of fresh manures will give all the growth necessary for a great crop of wheat; but will it fill the berry? will it make such flour as the wheat of western New-York? We know it will not. The principal essential to the perfection of grain can only be restored by time and skilful cultivation to such soils; it would be wise then, where it exists, to prevent its decrease or its exhaustion.

It is unhappily too true, that on a large portion of our best cultivated wheat lands, the soil has become so infested with a variety of foul and noxious plants, that a course of naked summer fallow, thoroughly performed, has become necessary to counteract them, and prevent their increase and spread. On clean soils this would not be required, but some valuable crop might take its place, and thus add essentially to the profits, while it lessens the labor of the husbandman, so far as the operation of summer plowing was concerned. The only alternative of such fallows is hoed crops, and these must of necessity for the reasons before given, be too limited, to seriously affect the propriety of fallows on weedy land. Spring crops, such as barley, oats, spring wheat, or even peas, do not allow of sufficient cultivation to check the spread of weeds. The sowing of such crops on land where the Canada thistle for instance abounds, is precisely the treatment to make it spread and flourish. The thistle, stein krout, charlock, &c. will succumb only to plowings and hoeings so oft repeated that the mutilated plant has no time to recover from one blow before another is given.

The preparation of seed, and the quality of that sown, are objects of the greatest consequence. In the most favored sections of our country there are but few fields of wheat in which smut cannot be detected, and in a country so favorable to the perfection and purity of this grain, as the best wheat districts in the United States are, none at all should be suffered. In Europe, continual care is requisite to keep their wheat free, and in the best wheat countries the crop is almost wholly exempt from smut; here but a trifling attention is requisite, and the consequence is, it is found almost every where, and in some places to the serious injury of the crop. Now it is well understood, that soaking or washing wheat in brine, and drying it with caustic slaked lime, will effectually prevent smut, as well as benefit the crop in other respects; to sow wheat therefore, without such preparation, is voluntarily to incur the risk of smutted wheat, and the inevitable consequent loss. There are some other substances that used as a wash for wheat appear to possess the power of destroying smut, such as coppers, vitriol, arsenic, &c., but as none are more certain in their operation, or can be used with less trouble or danger than lime, the application of that substance is undoubtedly to be preferred to any other.

The kind of seed used, and its quality, are things of too much consequence in the culture of wheat to be left to chance. There are many varieties of wheat cultivated, some very productive, and some very hardy; some ripening later and others earlier; and these kinds in sowing should be chosen with reference to the soil and location. Varieties which ripen at the same period, may sometimes be advantageously mixed, for sowing in

the same field; but those that ripen unequally should be carefully kept separate. Some varieties of wheat may stand in the field longer than others before cutting, without danger of the seed shelling or wasting. Thus of the two kinds of flint wheat, the white and the Canadian, (the latter a comparatively new variety) if the last should be allowed to stand after arriving at maturity as long as the first can be permitted with impunity to do, the loss by shelling would amount to no small portion of the crop. The first may stand almost to suit the convenience of the husbandman, while the last must be cut as soon as its maturity will admit, or certain loss will be incurred; and nearly the same remarks will apply to some other kinds. There are some farmers who seem to think that any thing that is in the shape of wheat, however imperfect or defective the berry, if it will only grow, may be used as seed. This is very mistaken policy. It is impossible that the young plant should be as vigorous and as perfect, when springing from defective and shrunken seed, as when growing from that in which the peculiar principles of the plant are fully developed, and the germination commences without check or hindrance. The seed that ripens first in the ear, and is separated with the greatest ease, is the most proper for seed, as these circumstances show it is the most mature. A farmer in one of the northern states, a few years since was in the habit of selling large quantities of seed wheat annually and at high prices, as his wheat was of a superior quality, very heavy, and productive, and supposed to be a new variety. It appeared, however, that he had brought his wheat to that degree of perfection, by selecting some of the finest ears from a field in the first place, and then instead of threshing the whole crop grown and using the seed promiscuously, he gently beat the sheaves over a barrel, by which only the best and most perfect grains were separated, and by repeated sowings had rendered the qualities so desirable permanent. The quantity of seed sown differs much in different parts of this country and in Europe. Perhaps the English use a greater amount of seed than any other people, and their crops are certainly not often excelled. From two and a half to four bushels per acre are there used; while here the quantity varies from one to two and a half bushels per acre. The general quantity is about a bushel and a half. Where wheat is sown late, more seed is required, as the wheat does not tiller or spread as much as when sown early; and when the berry is unusually plump and full, more is required than when the kernel is lighter. As on soils too, that are not rich, a single plant will not throw out as many stalks as where the land is very rich and fertile, it would seem that on such lands more seed would be necessary to seed it properly; as it is clear that where but one or two stalks shoot from a root, these must be more numerous than when a root produces half a dozen.

Opinions among farmers have been somewhat variant on the subject of changing seed; but we think unless more pains is taken to originate and preserve good seed on a farm, than now usually is, there is essential benefit derived from such changes. Wheat is certain to succeed better on lands not naturally adapted to its production, when the seed is brought from a good wheat soil or district. For many years the farmers of large sections of the western district of New-York, where the wheat crop at that time was apt to fail or smut, found a profit in sending some twenty or forty miles to procure seed from the best grain districts, and the crop from such wheat rarely failed in producing grain of good quality. There is also a decided advantage secured in bringing seed from lower land and a milder climate, to elevated lands, or a cold moist climate. Such a change of seed renders the mountain crop earlier and better than it would be if seed from the same neighborhood was used. Professor Brown has on this subject the following remarks, which are undoubtedly correct, as they are founded on the experience of husbandmen in the high and low lands of Scotland:

"We are convinced that the cultivator of a mountainous district, if he always used seed from his own crops, would reap later and later harvests, so that at last they would with difficulty be brought to maturity; a circumstance easily explained by the comparative shortness of summers in mountain districts. If, on the other hand, the cultivator of a flat country, the climate of which is mild, and the soil dry and light, continually made use of his own seed, it would head every year sooner, the stalks would become shorter, and the heads and grain smaller and smaller, and in time there would result but a poor produce. In this last case, the cultivator brings his seed with advantage from a country or district more cold, the soil of which is good and substantial."

The instances in which benefit has been derived, on what are called beech and maple lands, by using seed from oak lands, are so numerous that almost every one must be familiar with them. The advantages in this case, however we may choose to explain them, cannot with propriety be disputed.

As to the time of sowing wheat, it may be remarked, that very early sown wheat gets more firmly rooted, than later sown, and in consequence is less liable to injury from freezing out. Wheat may be sown so late as not to germinate until the severity of the winter is past, or the greatest danger from frost is gone by; but such late sown wheat is far more liable to the attacks of blight or rust than that which ripens early, or which is so far advanced before the close, hot, showery weather, that marks the advent of blight commences, as to be safe from injury. On the other hand, late sown wheat is very certain to escape the Hessian fly, which in some parts of the country is the greatest enemy wheat has to en-

counter. It would seem then, that where wheat is liable to winterkill or blight, early sowing is to be preferred; and that where the fly is prevalent, sowing should be delayed as long as possible. It may be added, that some experiments would seem to prove, that in districts where the wheat worm has been so fatal to spring wheat, very late sowing, by delaying the earing of the wheat until the period of the worm fly was passed, would preserve the crop.

There is more wheat lost to the husbandman from the single cause of winterkilling, or freezing out of the ground in the winter or spring, than there is in this country from all other causes put together. The worst period is in the months of February or March, when the ground is bare of snow, and thawing mild days are succeeded by sharp freezing nights. This freezing expands the surface water, lifts the roots from their place a little at each time, and by successive freezing and thawing, leaves the plant without any hold upon the soil, and consequently to perish. Heavy soils are more apt to winterkill grain, than gravelly, or light ones, as these can retain little water. It would seem to be a necessary inference, then, that thorough draining such soils as are apt to winterkill wheat, would prove a remedy, and theory and fact in this case are found to agree. We have lately had the pleasure of seeing beautiful fields of grain growing on lands, from which a few years since the production of wheat would have been impossible. Thorough draining had removed the water that formerly saturated the soil, and by freezing the surface, prevented the lifting out process that always accompanies the freezing of wet grounds. It is usually the case that such wet grounds contain a large supply of vegetable matter, and draining renders them so productive, that the profit of a single crop not unfrequently repays all the expense incurred in the improvement, leaving the land, which in its former state was nearly worthless, a clear gain to the husbandman. If on common farms the means of trench or thorough draining are not at hand, surface drains made in such a manner as to carry off the water that falls on the land, should be constructed immediately after the sowing is completed. By preventing such water remaining in, and consolidating the land, grain is less liable to be thrown out; and though far less beneficial, or permanent in its effects, than thorough draining, surface drains should not be omitted where there is the least danger from excess of water.

Cream Pot Cattle and Ten Hills Farm.

One of the most attractive places to the agriculturist in the vicinity of Boston, is the Ten Hills Farm, occupied and managed by Col. S. Jacques, and owned by an association principally composed of rich merchants in Boston. The object of the association was to form a stock farm, and a company was formed of one hundred shares of three hundred dollars each, the property held in trust for the owners of the shares. On this money the proprietors receive from Col. Jacques five per cent annually, or fifteen hundred dollars in the whole. It is a noble instance of private liberality, for the advancement of agriculture. How easily might such a pattern farm be established in any of our rich agricultural counties, if the same spirit of improvement was as operative in them as in Boston. On this farm Col. Jacques bred the celebrated merino ram which yielded 42 lbs. of wool at three shearings, an amount probably not equaled by that of any sheep in this country, merino or otherwise.

But the most interesting object on the Ten Hills Farm is the breed of cattle, called by Col. Jacques, the Cream Pot Breed, and which for richness of milk are unrivaled. The origin of this stock, according to Mr. Colman, was a fine native cow raised in Groton, Massachusetts, but of her origin farther, nothing is known. She was sold to a gentleman near Boston, a dealer in milk, and so rich was her milk, that the movement necessary in carrying it, frequently converted it into butter. Mr. Jacques procured this cow, and by crossing with the short horn bull Cælebs, afterwards owned by Mr. Jacques, originated the breed which has since become so famous. Mr. Jacques a short time since informed Gov. Hill, that "this celebrated bull, while in his possession, went to four hundred cows at ten dollars each; and on his head he received in cash thirty-eight hundred dollars." Col. Jacques' improvements have received the test of three generations, and he has now about forty cows and heifers, and ten or a dozen bulls and bull calves. The color of this stock is a rich deep red, one of the most beautiful and favorite colors, and of good form and proportions; and in the language of Mr. Colman, "if they continue to display the extraordinary properties by which they are now distinguished, they promise to prove themselves for dairy purposes the most valuable race of animals ever known among us;" and in that of Gov. Hill, "such an animal as the five months calf, at the price of one hundred dollars, for a breeder, would be capital well invested, if kept only for the use of a farm of a dozen cows."

Col. Jacques' own account of the manner and object in his course of breeding, is as follows: "It has been my object to effect such an improvement in milch cows, as should produce the greatest quantity of rich milk, affording the largest quantity of butter. There is a greater difference in a pecuniary point of view, between a good and a poor cow, than among any other domestic animals. In some yards may be found those that will not produce more, than three pounds per week, and others that will make nine, and all on the same keep. As we sometimes hear of cows, which have

produced seventeen pounds of butter per week, and even more, it occurred to me to inquire why a breed or race could not be formed with the same valuable properties. This I have attempted; and have carried it to the third generation, and I am confident of success. I have a cow whose milk has produced nine pounds of the best butter in three days; and this on grass feed only. This I call my *cream pot breed*."

It is evident to us that Col. Jacques has adopted the true course in producing a valuable stock. He selected animals combining the qualities he desired to perpetuate in the greatest degree; and in continuing his operations, a selection only of such for breeding as evince the same properties, have been chosen by him. With this precaution, he cannot fail of success. The qualities that in the first instance may have been partially accidental, become constitutional and permanent, and we can see no good reason why the Cream Pot stock of Mr. Jacques should not become as celebrated as the short horns of Messrs. Collings or Berry, to which, indeed, they are so nearly allied.

BERKSHIRE PIG.

We have the pleasure of acknowledging the safe arrival of a Berkshire Pig, a present to the editors of the Cultivator, from the superior stock of Mr. Lossing, of Albany. This pig is about eight weeks old, and is from the celebrated sow Maxima, by the imported boar since sold to Mr. Beach, of Ohio, for \$200. A description of both may be found in Mr. Lossing's paper on Berkshires, and Nonpareil will doubtless do honor to his "illustrious ancestry." It may seem absurd to some to talk of beauty in a pig, but if the most fastidious were to see the animal under notice, they would allow that he was beautiful; and Hogarth himself, with his line of curves which is the line of beauty, would have been driven to the same admission, as with the exception of his short nose, there is not an angle about him.

Some curious facts, showing the correctness of Mr. Berry's statements relative to the breeding of short horns, (and they are equally applicable to other stock,) that breeding in and in generally in a short time causes the loss of the reproductive powers, have occurred in the history of the Berkshire pig in this country. We obtained, two years since, a pair of these pigs, well bred, from one of the earliest importations, and the boar has proved perfectly impotent, none of the sows stunted to him, having ever produced a single pig. A similar result obtained in the case of a pair purchased by Mr. Marks of this county, with the exception that in his case, the *sow* has given no progeny. Such cases prove the necessity and advantage of the course so strongly recommended and practiced by Mr. Berry, in the case of cattle, and now adopted by the intelligent breeders of Berkshires, of a recurrence occasionally to pure blood animals of the original breed, in preventing the deterioration complained of. W. G.

Utica, August, 1840.

LIGHTNING RODS FOR BARNs.

No sooner is the harvest gathered, and the farmer's barns well stored with hay and grain, than the newspapers are constantly bringing us accounts of their destruction by lightning. Every year the loss sustained by the burning of barns by lightning, is far greater than that of dwelling houses, and more lives we believe are annually lost in them; yet while houses are protected by conductors, or insured against fire, barns are left to take care of themselves. In a single storm that passed over the Delaware river near Trenton, a few weeks since, three barns were struck and destroyed; 14 cows were lost in one, and the whole loss was several thousand dollars. None were protected, and on one only was there a trifling insurance. The reason why barns at such a season of the year are so frequently struck, is owing to the column of heated vapor that rises from the partially fermenting mass within, which vapor is one of the best of conductors for the electric matter of the cloud. After this vapor ceases to rise, barns are in no more danger than other buildings of equal elevation; and the necessity of protection, or insurance, arises from the fact that the greatest danger is at the precise time when the greatest value is accumulated in them. Common prudence demands that protection by rods should be given, or insurance against such casualties effected.

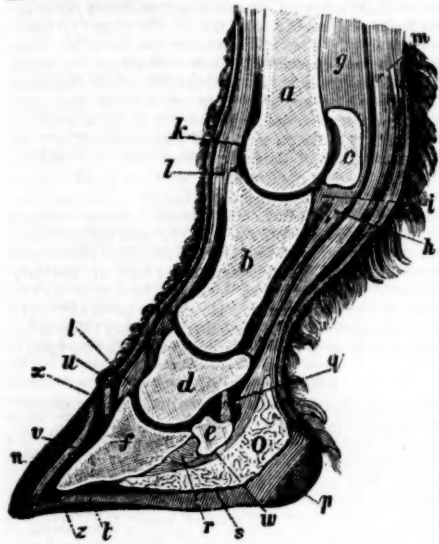
PLOWING PASTURES.

Judge Hayes of Maine, says he is accustomed to use alternately his pastures for mowing fields, and his mowing fields for pastures; and finds a great advantage in this mode of treatment. He plows his pastures, even though he has no manure to apply to them; inverting the sod, laying it completely over, and then sowing grass seeds upon it. In this way the feed of his pastures is greatly improved, both in quantity and quality. In plowing pastures, when he has no manure to apply to the soil he plows shallow; but, at any rate they should be occasionally plowed, and renewed with grass seeds.—Report in N. E. Farmer.

Judge Hayes' method is a good one; as every such plowing adds about 12 or 14 tons of vegetable matter in the grass, roots, &c. to the acre. We have known this method tried on meadows that were "bound out," or on which the valuable grasses had mostly run out, with good success. On these meadows, however, after turning over, a dressing of manure was put on, and a crop of spring grain with the grass seeds put on. Where plowing cannot be performed conveniently, a thorough harrowing with a fine sharp toothed harrow, and new sowing with grass seeds will produce a good effect.

THE HORSE.

The foot and leg of the horse exhibits a most curious adaptation of complicated means to produce a given result; and as these parts are the seat of several diseases, and liable to serious injury, and are besides but little understood, we have given from Youatt's Work on the Horse, an engraving affording a fine illustration of the parts, their relative position, and enabling the farmer to trace the seat of some of those complaints to which this noble animal is subject. The references will point out these parts and their arrangement, fully, as shown in section.



[Fig. 77.]

- a The shank-bone.
- b The upper and larger pastern-bone.
- c The sesamoid-bone.
- d The lower or smaller pastern-bone.
- e The navicular or shuttle-bone.
- f The coffin-bone or bone of the foot.
- g The suspensory ligament inserted into the sesamoid-bone.
- h A continuation of the suspensory ligament inserted into the smaller pastern-bone.
- i The small inelastic ligament, tying down the sesamoid-bone to the larger pastern-bone.
- k A long ligament reaching from the pastern-bone to the knee.
- l The extensor tendon inserted into both the pasterns and the coffin-bone.
- m The tendon of the perforating flexor inserted into the coffin-bone, after having passed over the navicular bone.
- n The crust or wall of the foot.
- o The inner or sensible frog.
- p The cleft of the horny frog.
- q A ligament uniting the navicular bone to the smaller pastern.
- r A ligament uniting the navicular bone to the coffin-bone.
- s The sensible sole, between the coffin-bone and the horny sole.
- t The horny sole.
- u The coronary ring of the crust.
- v The sensible laminae to which the crust is attached.
- w The seat of the navicular joint lameness.
- x The covering of the coronary ligament from which the crust is secreted.
- z Place of bleeding at the toe.

It will be seen that the engraving exhibits six bones, in whole or in part, viz: the leg or shank-bone, the sesamoid-bone, the large pastern-bone, the small pastern-bone, the coffin-bone, and the navicular or shuttle-bone. The oblique or slanting manner in which these bones rest on each other, and the peculiar manner in which the powerful ligaments of the leg and foot are placed to support them in this position, will be seen at once. Much of the character and ability of the horse for particular kinds of service, is depending on the degree of this obliquity in the bones of the foot. The race horse, and the horse intended for the saddle, require a length of the pastern-bones, and an obliquity in their position that would be objectionable or fatal in the horse intended for labor in the field, or heavy draft on the roads. The race horse requires these bones to be long, and the inclination of them to be great, in order to have them in the best position for large and rapid strides; the saddle horse or hunter, requires something of the same property, though in a less degree, to enable him to carry a rider easily, and make the leaps at times required in the chase. In the heavy team horse, this obliquity would be destructive, as the effort in drawing would press the foot into an angle so acute as to rupture the tendons and destroy the horse. The pastern-bones of the draft horse, then, require to be shorter, larger, and much less oblique than those of the saddle or race horse. It is to the upright or pillar like form and position of the bones of the foot, that the hard jolting movement of the draft horse is to be attributed; and to the elastic spring which an oblique position of these bones give, the ease experienced by the rider of a hunter or good saddle horse. This difference in obliquity produces effects observable in another way. The horse in which this slanting position of the bones is considerable, rarely knuckles or rolls his toes under or falls with his rider, unless by over exer-

tion, the ligaments of the leg have become weakened. On the contrary, the horse with upright pasterns, is unsafe to ride from this cause, and the frequent recurrence of it is almost sure to be followed with ossification or hardening of the cartilages of the joints, and consequent lameness.

The suspensory ligament (g.) exercises a most important influence in the movement of a horse. It is of the most dense and elastic description; is firmly secured to the sesamoid and pastern-bones; and while, as the horse usually stands, the tuft of the fetlock is some inches from the turf, when in rapid motion, or the weight is thrown violently on the feet, this tuft descends and sweeps the ground. Mr. Percivall, in his Veterinary Lectures, thus alludes to this ligament:

"The suspensory ligament, by its reaction instantaneously after extension, aids the flexor muscles in bending the pastern joints. The astonishing activity and expedition displayed in the movements of the race horse at speed, seem to be referable in part, to the promptitude with which the suspensory ligament can act before the flexor muscles are duly prepared; the latter we should say, catch as it were, and then direct the limb first snatched from the ground, by the powers of elasticity in this tendon."

Rupture of this ligament, or what is called on the turf, letting down, is one of the most serious injuries that can happen to the horse, but fortunately is of rare occurrence. Perfect quiet, bandages, and a high heeled shoe, afford the most probable means of relief; but this can never be considered more than partial or temporary.

The disease called grogginess, or weakness and tottering of the foreleg, indicated by kneeling, is undoubtedly owing to ill judged, or cruel exertion; and when occurring in old or hard worked horses, rarely admits of cure. In younger animals, rest and freedom from exertion, for some time, may afford relief.

The joint between the coffin-bone and the lower pastern is liable to sprain, and animals are not unfrequently lame from this cause. The lameness is usually sudden, and an inflammation is produced, causing heat and tenderness, principally around the coronet. Mr. Youatt says:

"There is no species of lameness more confounded with affections of the shoulder than this, because it is the custom of ignorant and prejudiced persons to trace every lameness to the shoulder, which is not palpably referable to some other part."

It is after violent and repeated sprains of the coffin and pastern joints, that inflammation of the periosteum or membrane covering the bone ensues, a deposition of bony matter takes place, which usually increases until it is visible, when it is known by the name of ringbone, one of the most obstinate diseases to which the horse is subject.

"Ringbone commences in one of the pasterns, and usually about the pastern joint, but it rapidly spreads, and involves not only the pastern-bones, but the cartilages of the joint. Where the first deposit of bone is on the lower pastern, and on both sides of it, and produced by violent inflammation of the ligaments, it is recognized by a slight enlargement or bony tumor, on one or both sides of the foot, and just above the coronet. * * * At this time the lameness is not very considerable, and it is not impossible to remove the disease, by active blistering or the application of the cautery; but there is so much wear and tear in this part of the animal, that the inflammation and consequent disposition to the formation of bone, spread rapidly, producing irreparable injury, unless promptly arrested."

Ringbone is more frequent in the hind than forefeet, owing perhaps to the greater force exerted on the ligaments in propelling the horse forward; yet on the hind feet the lameness caused is not so great, as here it is principally confined to the ligamentary parts, and the bones do not suffer so much from violent concussion as in the fore foot. But wherever it appears, it is one of the most serious evils that afflict or injure the horse, and when the bony deposit begins to spread, the disease is incurable. The multitude of recipes for its cure are either the result of sheer quackery, or are applicable to the first stages of the disease. After this period has passed, and the bony deposit is formed, permanent lameness may be expected.

COOKED AND UNCOOKED FOOD.

There is in the Maryland Agricultural Reports, a record of an experiment of this kind, conclusive in favor of the cooked food; though from some cause, the gain in either case was not such as ought to take place when hogs are well fed. This defect was probably owing to the breed, as it is well known that some breeds take on flesh with more than double the rapidity of others. We give in a condensed form, the substance of the Report.

On the first day of December four shoats of the same breed and nearly of the same size, were selected from a lot of 90 hogs; two of which, weighing 185 pounds, were put by themselves, and "were fed on one gallon of shelled Indian corn, weighing seven pounds, to each, for every 24 hours, and as much water as they wanted." This was a full supply, and though not always all consumed, was generally so. "For the two pigs whose weight together made 173 pounds, seven pounds of good Indian corn meal, by measure ten pints, were made into good mush or hasty pudding, and divided between them, for every 24 hours." Thus these last, had exactly half the amount of corn given them that the first received. The cooking was done daily, and took an hour and a half. The seven pounds, or ten pints, when made into pudding "weighed an average of thirty pounds, and measured three gallons." The evening feed of mush was usually warm, that of the morning cold. Between

the two pigs fed on cooked food, there was a difference of nine pounds, and while the allowance of fifteen pounds to the smallest, was as much as he could eat, the other was always greedy and sharp set.

Before being killed, on the 4th of January, they were all again weighed; and those that had been fed on the corn, were found to have gained, one five pounds, and the other twenty, on the same daily allowance of seven pounds each. Of the pair fed on cooked food, or mush, and the daily allowance of which was 34 pounds of meal each, the greedy one had gained 23 pounds, and the other 21 pounds. This is no great gain, to be sure, but taken in connection with other experiments of the kind, it gives rise to the important question,—whether, when so much corn is annually fed to hogs, if a saving of one-half can be made by cooking it, is it not well worthy the attention of farmers to adopt such a mode, and provide a proper apparatus?

VALUE OF ASHES.

Professor Jackson, in one of his lectures in Boston, in illustrating the manner in which soils might be rendered fertile, said that—"a farm within his knowledge, which was a blowing sand, a pine barren, and almost hopeless, on which ten bushels of corn to an acre could scarcely be grown, by the judicious application of ashes, had been made to produce forty or fifty bushels to the acre." We do not question the correctness of Dr. Jackson's statements. Our observation has convinced us that on sandy soils, with the exception of clay marl, there is nothing more beneficial in the application to such soils, than ashes; and very fortunately, unless uncommon quantities of acid exist in such soils, leached ashes are nearly as beneficial as unleached ones. Ashes do what lime cannot; they render the soil more tenacious of moisture, and although their action is not as prompt or efficient on cold sour soils, they are for the reason assigned, considered as valuable on light sandy ones. Of this fact the farmers on the light soils of Long Island and New-Jersey, are well aware, and in the gathering and application of ashes, find a certain source of profit.

PEAT AS A MANURE.

Peat, it is well known, is a vegetable substance produced by successive growths and decay of sphagnum or mossy plants, with a slight intermixture of other vegetable and earthy matter. It has formerly been considered worthless as a manure, as notwithstanding its nearly pure vegetable nature, its application injured instead of benefiting land, rendering it apparently more wet and cold, and aiding the growth of nothing but sorrel. Science has, however, at last been brought to act upon it, and it is found that its great defect is the large quantity of acid it contains, and that by neutralizing this, by the addition of some alkali, it becomes a valuable manure. Various methods have been adopted for doing this. By making a compost heap of three parts of peat and one part of stable manure, a slight fermentation is produced, by which the acid is corrected, and decomposition effected. "By mixing it with lime and animal matter or manure, ammoniacal gas is evolved, which dissolves the peat and converts it into a powerful manure." In Rhode Island, considerable quantities of manure are made by mixing the fish called *manhaden*, of which large numbers are taken in the bays, with peat or swamp mud, in the proportion of one load of fish to ten cart loads of peat or mud. Dr. Jackson says the rotting of the fish decomposes the peat, and this absorbs the gasses from the decaying fish, converting the mass into an active manure, in some cases increasing the crops to which it is applied, fifty per cent. In short, the farmer who has, what was formerly most dreaded, a peat bog on his farm, may consider himself as in possession of an invaluable source of first rate manure.

PROOFS OF INFILTRATION.

The question of infiltration, or the tendency of vegetable and animal matters to descend in soils, is a matter of considerable importance, as on it is greatly depending the decision of the proper position of manure in the soil. Some maintaining that manures never sink below where the ground is moved, advocate the placing of manures deep in the soil; others believing that the most valuable parts, the soluble salts, in such cases speedily pass beyond the reach of the plants, prefer a slight covering, that allows the manure to remain as near the surface as possible. On this subject Dr. Jackson makes the following remarks:—

"The infiltration of manures is doubted by some, but the condition of our wells prove it. The water in a barn-yard is never pure. As much as a tea-spoon full of vegetable matter to a gallon is often obtained from waters that are considered pure. This may be seen by any one who will evaporate the Boston water to dryness. In the purest water obtained from lakes, 14 grains of vegetable matter to the gallon may be obtained. In the water of Boston 33 grains are found to the gallon. Soils brought from 150 feet depth in this neighborhood, are found charged with vegetable matter."

The Massachusetts Commissioner, Mr. Colman, says:—

"There are salts of lime enough in the waters of Boston wells drank every year, to make ten statues as large as Lot's wife, and as to the other ingredients or impurities which, according to Dr. Jackson's account exist in it, they are not to be named."

Such facts prove, incontestably, that manures do infiltrate, or descend, and the natural inference, therefore, would be, that to produce the best and greatest effect, they should be buried near the surface.

DOMESTIC ECONOMY.

The month of September is the month for preserving fruits, &c. and for the benefit of our lady readers, who wish to furnish for their tables a supply of fashionable sweetmeats, pickles, &c. we devote this chapter of our Domestic Economy, to those subjects exclusively.

Where the fruits to be preserved are very delicate, or sweetmeats of a superior quality are desired, white or loaf sugar will be best; but for most kinds of fruit, or ordinary preserves, good brown, or maple sugar, will do very well. Brown sugar requires clarifying or cleansing, which is done by dissolving it in a small quantity of water with a gentle heat, then, after cooling, stirring in the whites of eggs well beaten, and gradually heating the syrup until all the impurities rise to the surface, when they are to be skimmed off, and the clarified syrup left pure for preserves.

Any kind of fire proof ware will do for the making of preserves, with the exception of iron; but as most of the fruits used contain more or less acid, brass or copper vessels are the best. In no case should they be allowed to stand in any such vessel to cool, as injurious consequences might ensue. Stone, or china, or glass, make the best vessels for depositing sweetmeats in; as they furnish nothing injurious for the acids to act upon. After preserves are made, the pots must be covered close, kept in a cool place, frequently looked to, and if about to ferment, let the syrup be poured off, scalded, and returned to them while hot. A paper wet in good brandy, and laid on the surface of the sweetmeats, will assist much in their preservation. As a general rule, a pound of sugar to a pound of fruit is sufficient; but some kinds of fruit require more, and others will do with less than an equal quantity, according to its ripeness or the acid it contains.

PEARS.—When made into preserves this fruit requires three quarters of a pound of sugar to a pound of pears. Syrup made as directed from brown sugar is good. Put the pears in the syrup and boil them till soft. The astringent or choak pears are good for preserving. A little ginger tied in a bag and boiled with the fruit improves their flavor, or lemon, or orange, sliced, may be added at pleasure. To make *Pear marmalade*, boil the pears with the skins on; when soft rub them through a sieve, and put to each pound of pulp three fourths of a pound of sugar. Stew it slowly till it is a thick jelly. Marmalades must be stirred constantly, or they burn on the kettle.

QUINCE.—This fruit makes the best of preserves, and one the least injurious to health. Pare and cut the fruit in slices an inch thick, taking out the cores carefully, so that the slices remain in the form of a ring. One pound of sugar is required for a pound of fruit, and white sugar is to be preferred. Dissolve the sugar in cold water, a quart to a pound, put in the sliced quinces and let them remain half a day. They are then put over a slow fire, and boiled gently, always having sufficient syrup to cover the quinces. When a small splinter will go through them easily, they are done, and are to be turned out. In about a week turn off the syrup and boil it down, so that there will be just enough to cover the fruit. They must be ripe, to preserve good in this way. The parings and cores of quinces are used for *marmalade*, which is made by stewing them in a small quantity of water over a fire till soft, then rubbing them through a sieve, and adding to each pound of strained quince a pound of sugar. Put the vessel on a few coals, and stir constantly for one hour. When cold, it cuts smooth if sufficiently stewed, making a jelly of the richest kind.

PLUMS.—This fruit requires equal weights of sugar and fruit. Boil the plums slowly in the syrup for ten minutes; turn them in a dish and let them remain four or five days; then boil again till the syrup appears to have penetrated the plums fully. Put them in jars, and in about a week turn off the syrup, scald it carefully, and return it while hot.

APPLES.—Tart mellow apples are the best for preserves, and they must be pared and the cores taken out with a small knife. Three fourths of a pound of sugar, a tea spoonful of ginger tied in a bag, and water to cover the apples, is allowed to a pound of fruit. The apples must be put into the prepared syrup when it is lukewarm; boil them till they are transparent; and when taken up and partly cooled, put in a little essence of lemon. In a week turn off the syrup, boil it, and return it hot to the fruit. The Siberian crab apple makes a superior sweetmeat, preserved as above, whole and without paring.

BARBERIES.—Barberries preserved, approach in their qualities the nearest to the East Indian tamarinds, and like them, are frequently found useful in fevers. The fruit should be fully ripe and allowed to remain on the stems. The syrup must be rich, using as much sugar as fruit; when made, and lukewarm, put in the barberries and boil them till they appear penetrated by the syrup. An orange sliced is thought by some to improve the flavor.

TOMATOES.—An "experienced lady," gives the following directions for preserving this fruit. "Take them while quite small and green—put them in cold clarified syrup, with an orange cut in slices to every two pounds of tomatoes. Simmer them gently over a slow fire for two or three hours. There should be equal weights of sugar and tomatoes. If very superior preserves are wanted, allow two fresh lemons to three pounds of tomatoes, pare thin the rind of the lemons, so as to get none of the white part, squeeze out the juice, mix the parings, juice and cold water sufficient to cover the tomatoes, and put in a few peach leaves, and powdered ginger tied up in bags. Boil the whole gently for three fourths of an hour—take up the tomatoes, strain the liquor, and put to it a pound and a half of white su-

gar for each pound of tomatoes. Put in the tomatoes and boil them gently till the syrup appears to have entered them. In the course of a week turn the syrup from them, heat it scalding hot, and turn it on the tomatoes. Prepared in this way, they resemble West Indian sweetmeats."

WATER MELON RINDS.—The rind of a good ripe, water melon cut into small strips, and boiled in water till tender, with a tea spoonful of saleratus, and a dozen peach leaves to two quarts of water. The rinds are then to be taken out, and soaked in alum water an hour. For the syrup, allow as much sugar as rind. Put the rinds in the syrup while cool, with ginger tied in a bag. Boil till the rinds are soft, and when partly cooled, add some essence of lemon. In the course of two or three days, take out the ginger, turn off the syrup, and boil it till there is just enough to cover the rinds; return it to them while hot.

PICKLING—general directions.—Brass should be used for vessels in the process; thoroughly cleansed before using, and no vinegar allowed to cool in them. This precaution is necessary to prevent the formation of verdigris, an active poison. Boil alum and salt in the vinegar, in proportion of half a tea cup of salt and a table spoonful of alum to three gallons of vinegar. Vessels that have any grease about them will not do for pickles. Stone and wood are the only proper materials in which to keep pickles when made. All pickles should be stirred up occasionally. When any scum rises, the vinegar needs scalding. Pickles may be spiced or not at pleasure; and when the vinegar becomes weak from use, it may be thrown away and fresh vinegar substituted. Good, but not the sharpest vinegar, is the best for pickles.

CUCUMBERS.—The best are those that are small and green, and those of a quick growth. Turn boiling water on them as soon as picked; let them remain five hours, and then put them in cold vinegar, with alum and salt in the proportion of a spoonful of the former, and a tea cup of the latter to a gallon of vinegar; add vinegar as you add cucumbers; and when you have done collecting cucumbers, turn the vinegar from them, and scald and skim it till it is clear, then put in the pickles and let them scald without boiling for a few minutes, and return them to their vessel while hot. Cucumbers may be preserved in salt, or saturated brine, for any length of time, and then prepared for pickling by soaking and scalding. In the preparation of these pickles, no salt will be needed in the vinegar.—Peppers are added to the vinegar while hot, and before it is turned over the pickles.

PEPPERS.—Take those that are fresh and green, soak them in salt and water eight or nine days, changing the brine each day, and keeping them in a warm place. If they are not wanted very fiery, make a slit in them and extract the seeds, being careful not to mangle the pepper. If it is desired to stuff them, chop white cabbage fine, season it highly with mace, cinnamon, cloves, and nasturtiums if liked, and fill the peppers with the mixture. Sow them up carefully and put them in cold spiced vinegar. Tomatoes may be treated in the same way, and when green are very good pickled with the peppers. Peppers are one of the best of pickles, but those used must not be allowed to grow hard or tough before gathering.

NASTURTIUMS.—Gather them when small and green; put them in salt and water, and change them once in three days. When the gathering is done, turn off the brine, and pour on scalding hot vinegar. Season at pleasure, though generally used without.

MANGOES.—These are made of green muskmelons, as late in the season as possible. The common muskmelons make the best mangoes. A small piece is cut from the side, and the seeds carefully scraped out; it is then soaked in salt and water three or four days; when taken out, it is sprinkled on the inside with powdered cloves, pepper, nutmeg, and filled with strips of horse radish, cinnamon, small string beans, small pieces of flag root, nasturtium, small onions, radish tops, &c. The crevices are filled with whole mustard seed. The piece of melon is then put back, and a piece of white cotton cloth sowed around it. The melon is then placed in a jar, and vinegar prepared with alum, salt and pepper corns, as for cucumbers, made boiling hot, is poured over it.

CABBAGES.—Quarter the firm head of the cabbage; put the parts in a keg, sprinkle on them a good quantity of salt, and let them remain five or six days. To a gallon of vinegar put an ounce of mace, and one of pepper corns and cinnamon. Cloves and allspice may be added, but they darken the color of the cabbage. Heat the vinegar scalding hot, add a little alum, and turn it while hot on the cabbage, the salt remaining. It is necessary to turn the vinegar from the cabbage several times, and scalding it, return it again while hot. This makes them tender. Purple cabbages, the heads not large, but fine and firm, are best for pickling.

PICKLING OYSTERS.—Boil and strain the liquor, first taking the oysters from it. Rinse the oysters, and see they are free from pieces of shells. Put them in the liquor while boiling; boil them one minute, then take them out of it, and to the liquor put a few pepper corns, cloves and a blade or two of mace; add a little salt, and the same quantity of vinegar as oyster juice. Let the whole boil fifteen minutes, and then turn it on the oysters. If the oysters are to be kept any time, they must be bottled and corked, as soon as cold.

One way of saving both time and breath, is to use slips of paper for lighting candles or lamps. Lucifers are not always at hand, and if they were, their smell is not perfume, while the burning of a slip of paper lighted in the fire, or at the stove, offends no one. Cut a few dozen slips from old papers, letters, &c., and fold

them some six inches in length. Put them in a glass, where they can be conveniently reached, or place them in a paper case within reach. If you want something a little showy, use paper of several colors. Try this a few weeks and the old mode of matches, or coals and tongs, will not willingly be returned to by the house-keeper.

LINCOLNSHIRE AND BAKEWELL SHEEP.

We had the pleasure, last month, of viewing a flock of sheep, which were on their way west, consisting of twenty-five bucks and ewes, selected with great care by Mr. GEORGE L. WATSON, of Sennett, Cayuga county, from various flocks, but mostly from that of Mr. CLIFT of Westchester county. Among the number bought of Mr. Clift, was the famous Lincolnshire buck "*Nonesuch*," of which a portrait was published in the June No. of the Cultivator for the current year; also three other bucks and seven ewes of the same breed, all of which do great credit to Mr. Clift's flock, for an account of which, as well as a particular description of the buck "*Nonesuch*," the reader is referred to the communication of Mr. C. at p. 93. There were also in the herd, several Bakeswell bucks and ewes, affording fine specimens of that breed. Taken together, they were a beautiful lot, and Mr. WATSON, the purchaser, deserves much praise for his effort to introduce these breeds into western New-York, where as yet they are comparatively little known; and we doubt not he will be well rewarded for his investment. He desires us to say that a part of the bucks will be for sale; his object being to aid others, as well as to procure an improved breed for himself.

SEEDLING PLANTS.

One of the greatest sources of improvement in cultivation is to be found in the proper selection of plants to cultivate; and the law of nature is such that the opportunity for selection, and consequent improvement, is almost infinite. The seeds of plants may be said to rarely produce plants precisely like the original stock, and this is owing to a now well understood cause, the mixture of pollen from several varieties of the same plant; in sowing seeds, therefore, and cultivating the seedlings, we establish new varieties, superior in some respects, and perhaps in many to the old. As instances of this, we may refer to the strawberry, potato, pear and apple. So improved has the strawberry been in size and flavor, that the original plant is now rarely or never cultivated. The Methven, Wilton, Knight's seedling, &c. have been propagated from seedling plants; and it is but a few days since it was announced that a new variety, a seedling in a garden near Boston, had proved itself superior to every known variety of this delicious fruit. The potato also has proved the value of seedlings, in the new and excellent varieties to which sowing the seeds has given rise. As a proof of this we need only mention the Rohan. By sowing the seeds and cultivating the seedlings of the pear the celebrated Van Mons of Belgium, has originated several hundred new varieties of pears, many of which are the finest fruits, and promise to supersede nearly all others in cultivation. Every one can recollect some superior apple cultivated from seedlings, and in our orchards there are many apples that are of the first quality almost wholly overlooked, because they have no sounding name, and are only the "natural fruit." We have in our orchard a seedling tree that produces a sweet apple which for winter use is superior to any sweet apple with which we are acquainted. It is of middling size, yellow, with a tinge of red when ripened, keeps till March, is a good bearer, and highly esteemed for the desert or for cooking. We have also some grafts now bearing from a seedling tree in the orchard of a friend and which for distinction's sake, we call Parsons' Fall Greening. It is a good sized, round apple, deep green, smooth skinned, uniformly fair, ripe in October, flesh juicy, yellow, slightly acid, and of fine flavor. Nearly every seedling orchard can produce some variety worthy of extensive cultivation, and while there is no excuse for the allowing orchards of such miserable fruit to exist as are now, seen, the growers of seedling fruits or orchards, may reasonably expect to find in the collection many which will amply reward by their excellence, the labor bestowed on them. All our best fruits are from seedlings, and let it be remembered that every new fruit of superior quality produced, is only preparing the way for a future crop of still greater value.

WORMS IN FRUIT.

"MESSRS. EDITORS.—Can you give me any information, how to prevent the worm in fruit—apples for instance? I have an apple tree covered with fine fruit, and almost every one the habitation of a worm."

The worm in the apple as well as in the plum and cherry, is a species of curculio, the perfect insect of which, or the bug, deposits its egg in the fruit while it is small, and the worm when hatched preys on the fruit. After attaining its size, the worm, with the fruit, falls upon the ground, in which the worm takes up its abode in the chrysalis state, until, revived and changed by the spring, it issues a perfect insect to recommence the work of destruction. To destroy it, dislodge the bug from the tree by jarring it off and killing it; by picking up all the premature fruit that falls, as this state is usually induced by a worm, and feeding it to swine, or allowing these animals to run under the trees and gather the windfalls and defective fruit for themselves; or by beating down, or paving the ground under the trees so that the worm when it falls cannot readily penetrate the earth, but be picked up by birds or fowls.

AGRICULTURE IN FRANCE.

The agriculture of France differs in some respects from that of most European countries, particularly from that of England, and while the husbandry of both is flourishing, the causes and means of making it so are very dissimilar. We have gleaned from various sources, principally from an article in the English Agricultural Journal on the State Agricultural Establishments of France, some facts which we think will interest the American farmer.

In traversing France, the first thing that strikes the agricultural observer, is the almost total absence of fences. One may travel from the Belgian frontier to the Pyrenees, from Calais to the Rhone, and scarcely see a hedge or a partition fence of any kind. The eye ranges over vast plains, or sloping hills, covered with every description of crop; the pieces occupied by each kind varying from one fourth of an acre, to two acres. The owners of these plots do not reside near their lands, but are congregated into villages or towns; these hamlets constituting another singular feature of the country. The reason of this state of things is found in the fact, that in France the land is almost infinitely divided among small proprietors, while in England, and the other countries of Europe generally, the land is owned by large proprietors, and cultivated by tenants possessed of capital and skill.

In England and in this country, agricultural improvements are introduced and carried forward by individuals, or by associations; in France, the government "steps in, and partly by establishments maintained entirely at its cost, and partly by aiding local institutions with patronage and funds, leads the way in the path of improvement." In this respect France is imitating Prussia, and the public agricultural establishments of each, are such as do honor to the comprehensive minds that planned, and the skill which directs them. The advantages and beneficial effects of these institutions are so palpable, that no objectors in those countries are found to such a disposal of the public money, and we think that our state governments might take some useful hints from the interest these countries take in the promotion of agriculture within their limits.

The establishments maintained entirely by the French government, are—sheep farms, model farms, veterinary schools, and haras or studs.

The government sheep farms are three in number, Rambouillet, Perpignan, and La Hayeveau. There experiments are made in crosses, and the best breeds of sheep are reared. The kinds to which attention is chiefly directed, are the Merino; the Naz, a race with small frames, fine wool, but more hardy than the Merino; and the English long woolled sheep. The annual sales of wool and sheep nearly cover the expenses of these establishments. The principal cross is the Naz Merino, and the object, to ascertain how far increased weight of carcass and fleece can be carried without sacrificing the fineness of the wool. Rambouillet has 715 head of sheep, Perpignan 504, and La Hayeveau 312.

Of the model farms, Grignon is the chief; and consists of 1,100 acres of different qualities, arable, pasture, meadow, water meadow and wood. Here the best implements from all parts of the world are collected and proved, the best systems introduced, and under the guidance of able professors, theory and practice go hand in hand.

The pupils of this agricultural school are classed as "external" and "internal" or those that find food and lodgings for themselves, and attend the courses of the institution, and those that reside within the walls of the establishment. The charges of the first vary from \$50 to \$100 annually; the last from \$150 to \$250 annually. The shortest course is two years. The pupil passes a close examination, and if qualified, receives a diploma, giving him rank as a sort of M. A. of Grignon.

There are three veterinary schools, at Alfort, Toulouse, and Lyons. The course of education lasts four years; and includes botany, chemistry, as well as the anatomy and diseases of animals. Being in the vicinity of Paris, the school at Alfort has abundant opportunities of investigations and dissections in the diseased animals of that metropolis. From 280 to 300 scholars attend this school, and are boarded, lodged and instructed for about \$70 per annum. In order to give information of consequence on all diseases of animals, establishments of sheep, pigs, and dogs are connected with the institution. A few years since the French government purchased a herd of Durhams in England, part of which are kept at Alfort, as specimens of the improved breed. The favorite color in France is red, and that color is preferred perfect, or not broken with white or roan.

The greatest and most expensive of the government establishments is the haras or studs; of these three are kept as breeding establishments, Du Pin, Rozières, Pompadour. Du Pin is the most important, as here great numbers of horses are bred from the pure English blood; at Rozières the attention is directed to a mixed breed called the "race ducale;" and at Pompadour, the breed is almost exclusively Arab and Persian. These establishments contain 1,300 horses; of which about 400 are thorough bred. Connected with these government establishments, is the system of providing covering stations for the departments; and the last report shows that of these stallions there are 870, covering on an average 35 mares each, or a total of 30,450. These do not travel, but are kept at their respective stations. The influence of so many carefully selected horses, is visible

in the rapid improvement of the French horses generally, having the effect of crowding out of use the miserable animals that formerly there, as here now, are kept for the purposes of propagation. Every thing relating to these horses is recorded at each station with the greatest precision; their stations, posts in winter, feed in summer and winter, in short, every thing is the subject of minute regulation, and carefully adhered to. As an example of the mode of feeding these horses, we select the three first of the 23 stations.

	Ordinary allowance.				Allowance in the season.			
	Oats.	Hay.	Straw.		Oats.	Hay.	Straw.	
	Pints.	lbs.	oz.	lbs.	Pints.	lbs.	oz.	lbs.
Abbeville,	16	6	11	17 10	21	6	11	17 10
Angers,	14	11	0	13 4	17½	11	0	13 4
Aurillac,	14	11	0	15 7	16	11	0	15 7

The second method in which the French government aids agriculture, is in contributing to the support of lectures, agricultural societies, and local or departmental model farms. Application is made by the prefect of the department to the government for aid, and when it is ascertained that a society has been organized, a model farm provided, and a subscription secured, government grants such assistance as is deemed proper, to carry out the plans of the society or association.

In the year 1834, there were 17 societies, and 41 associations receiving aid; in 1839, 134 societies, and 468 associations. The societies, the chief of which is in Paris, are chiefly engaged in theoretical matters; while the associations are very much on the plan of our country agricultural societies; holding meetings, distributing prizes for good management, improved implements, improved cattle, &c. &c. Agents under the direction of government are engaged in the various regions of the globe, in selecting such plants and animals as may be deemed worthy of introducing into the culture of France; in Brazil, in China, in America, they are found; while at home, entomologists and botanists visit the departments to ascertain the habits and history of the insects and plants, useful or injurious to the farmer, and give information respecting their increase, or their extermination.

The expense of all these aids to agriculture amounts annually to a considerable sum, but it is deemed on the whole one of the most decidedly beneficial expenditures of government, and is cheerfully voted by the Chambers. The latest report classifies the expenses as follows:

Sheep Farms,.....	£2,303
Veterinary Schools,.....	11,263
Haras or Studs,.....	70,526
Other items of expense,.....	32,000
Management,.....	3,360
	£119,452

Or not far from half a million of dollars annually; a sum literally nothing when compared with the resources of the kingdom, or the great good it is effecting

GRINDING CORN IN THE EAR.

"MESSRS. EDITORS—Can you, or any of your subscribers, give any information on the additional value that would be conferred by grinding the cobs with the corn for feeding animals; and if any, what kind of mill would be the best for grinding? A CORN GROWER."

Some experiments have been made in this country to test the value of the cob when ground with corn, as an article of food, and we believe they have uniformly proved successful; but the difficulty of providing fixtures for grinding, and the little attention usually paid in this country to savings of this kind, has had the effect to prevent the attention of farmers from being much directed to this mode of preparing food for animals.—That a great saving would be made in feeding corn meal, by grinding the cob with the grain, might be reasonably inferred from the fact that when corn meal is fed to horses, it requires to be mixed with some coarser food, such as cut straw or hay; and that so mixed, a smaller quantity causes the animal to thrive better, and perform work as well, as a larger quantity of meal without such mixture would. Pure corn meal does not appear to sufficiently distend the stomach to bring into exercise its digestive faculties fully, without taking so much as to clog that organ and impair its functions eventually. For this reason, a mixture of less nutritive materials is desirable; and one of our most successful feeders of pork has assured us, that he always mixed oats with his corn, in the proportion of one-fourth, previous to grinding, and thinks he should find a profit in exchanging corn for oats, bushel for bushel, rather than feed the former to his pigs clear. It appears, from recorded experiments, that the cob, though doubtless possessing no inconsiderable portion of nutriment in itself, makes about the requisite mixture with the grain, and hence is of great value for the purpose of feeding.

In the N. E. Farmer, for 1825, may be found a communication from the Rev. H. C. Perley, giving the history of some experiments made by him in feeding with corn and cob meal. Mr. Perley broke his corn and cobs together by pounding, and the mixture was then ground in common corn millstones. "Meal made of this composition, I scalded, and made about as thick as common hasty pudding; or mixed about one peck of meal with three pecks of boiled potatoes, thickened to the consistency of pudding. With this kind of food and what wash was made in the family, I constantly fed my swine; there were none in the neighborhood grew so fast, or were fit to kill so early in the autumn. The neighbors were surprised that my hogs looked so white and grew

so well, being fed as they were, with cob meal, potatoes, and the wash of four cows. Some ridiculed the notion, others disputed and disbelieved the account; but finally all were obliged to believe the fact, though reluctant to repeat the experiment. I am this year using the same discovery and process of the cob meal, and can show better swine than any of my neighbors can produce of the same age." Mr. Perley had one batch of bread made of this mixed meal, combined with rye flour in the usual proportions, and found it as light, moist, sweet and palatable, as that made from pure corn meal.

According to Dr. Mease, the practice of grinding corn with the cob, is common among the German inhabitants of Pennsylvania. They consider the practice as a great improvement in the feeding of corn, and many of their mills have an apparatus for grinding. Dr. Mease adds, that "corn meal alone is too nourishing or heating, and it is therefore, by those who use it, mixed with a portion of cut straw, and coarsely ground rye or shorts, and in this state constitutes the daily food of that fine body of draught horses that do so much credit to our carters and draymen of Philadelphia, and the industrious farmers of the state at large."

That the cob of corn contains considerable nourishment in itself, is very probable; indeed, instances are on record, in which poor people, in times of a scarcity of food for animals, have converted them to a good use by pounding and boiling them, and feeding them out with a small quantity of cut corn leaves or straw. On such food cattle have for some time subsisted, and even seemed to be in good heart, if not to thrive.

In the Mass. Agric. Repos. for 1823, is a communication from Mr. Rice, of Shrewsbury, on the subject of feeding cattle, which constituted a part of his business, in the course of which he gives an account of one of his experiments in using cob meal.

"The second year, if I mistake not, in which I made use of cob meal, I thought I would try an experiment by feeding one ox with corn and oats ground, the other with corn and cobs, having a yoke of oxen so even matched, that no one who viewed them was satisfied which was best; accordingly I fed them as above. The cob is computed to make a little more than one third, therefore I mixed the other with one-third oats as was my former mode. I gave each ox an equal quantity at a time, except the one which had corn and oats sometimes became dainty, and would not eat his allowance, while the other kept a regular course. The allowance for both was a little over three pecks per day. When taken to market and killed, they weighed twenty-eight hundred and a half; the one fed on corn and oats weighing half a hundred the most, while the one fed on corn and cob meal was considered half a dollar per cwt. the best beef. The one fed on corn and cobs had 163 lbs. of tallow, the other 162 lbs."

From this, and other experiments, it would seem that cobs ground with corn, add to its value for the purposes of feeding, nearly or quite as much as would the same quantity of oats. If such is the case, there can be little room for doubt as to the propriety of making the practice of grinding the cob with the corn general, where this grain is used for feeding.

The mill used in Pennsylvania, is one invented by Evans, and much resembles the ordinary plaster mill in its operations. A cast iron screw revolves over a grate fixed in the bottom of a strong hopper, iron lined. The ears of corn thrown into the hopper are taken hold of by the screw, broken to pieces, and then they fall through the grate into a spout, by which they are guided to the millstones. Dr. Mease, however, strongly condemns the use of the same mill for grinding both plaster and cobs, as without great precaution, the plaster will be mixed with the cob meal, and produce dangerous concretions in the intestines of the animal eating it. In some parts of the country a common pair of millstones are used, the opening in the upper being made larger than usual, and the stones being more bosomed out, or made to fit less close in the inner part, than when used for grain. It is believed that corn in the cob might be broken sufficiently fine in a common iron bark mill, to admit being ground in ordinary millstones without difficulty. We should think that in any district where Indian corn is extensively grown, a miller would find it for his interest to attach a cob cracker to his machinery, as we are confident the farmers would find themselves well repaid by the great saving and superiority of the meal so made, for feeding.

KICKING COWS.

It is not unfrequently the case, that cows, excellent for milk, acquire some habit that materially lessens their value, and of these injurious habits, that of kicking, is perhaps, the most common. Bowing up one fore leg, tying both hind legs together, holding by the horns, and various other means have been resorted to, in order to break up the practice, but frequently without avail. Mr. Kidder has communicated to the Hancock Agricultural Society, a mode which he pronounces an effectual cure, and which he thus describes:

"Noticing the position of a cow while kicking, which was to drop the head and curve up the back, I thought I would try a new and simple method to cure her. After tying her in the stanchels as usual, I made one end of a rope fast round her horns, and put the other end over the girth, which was about two feet higher than the top of the stanchels, and about the same distance in front; drew it pretty tight and fastened it to a stud. This so effectually secured her, that she was milked with the most perfect ease and safety; and after practicing this method of tying a few times, she gave me no more trouble. Several subsequent trials have proved this method not only superior to all others as an effectual remedy, but it is so easy and simple that a female or a boy can secure a cow without difficulty."

AMONG THE FARMERS.

If a man would understand the value of agriculture; if he would learn to prize the art of all arts, the one that confers wealth and bread on the world; if he would see the true nobility of the country, the real sovereigns of the United States; if he would learn to look upon labor in its true light, honorable and useful to all; if he would have his heart gladdened at the successful results and rewards of honest industry, let him go among active, intelligent, practical farmers, men who in their practice enforce the same salutary lessons they embrace in their theory, or inculcate with their pen. We know not of any other sight so well calculated to show at a single glance the great source of national prosperity, the manner in which wealth is created, as a ramble in the fields among the ripening or growing crops, or a few hours' ride through a well cultivated district, when the farmer is filling his barns with the fragrant hay, and the reaper his arms with the golden sheaves; when the light wind comes scented with the odor of millions of flowers from the meadows and pastures, and gently bows the heavy heads of the maturing grain, when the rich silken tassels begin to wave amid the deep green of the luxuriant corn, and when, in short, on every hand, are to be seen unerring indications of plenty, and for the toil and labors of the husbandman, an abundant reward.

The pleasures we have described, we yesterday enjoyed in a hurried call, (for farmers must husband their hours in harvest,) upon some agricultural friends in the south part of Onondaga. The fertile section of country to which our remarks allude, lies on what is called by our state geologist, the Marcellus shales, or the formation between the Onondaga and the Tully limestones. It of course partakes largely of the character that would result from the decomposition of the rocks and strata farther north, and the boulders of limestone and sandstone indicate the nature and direction of the agents that have there produced the present order of things. The result is a soil in general favorable to cultivation, rich and productive, rather uneven, and where well managed, giving ample returns.

Mr. CUMMINGS is a gentleman who combines in a greater degree than most others, the experimental with the practical, and has been the agent of effecting much good to his agricultural friends, by the introduction of new and valuable kinds of seeds and vegetables. The introduction of the Canada flint wheat, a valuable English variety received through the Canadas, is an instance of this, and from him it has received the name by which it is in this section of the state generally known, the "Cummings wheat." It is a fine grain, bearded, very hardy, and appears likely to supplant to a considerable extent, the cultivation of the common flint wheat. It is more liable to shell in harvesting than ordinary wheat, and hence must be cut earlier than those that part with their seeds less readily. He has a beautiful crop of it now growing, and the seed has been extensively distributed within three or four years. He has at the present time six or seven varieties of Indian corn growing, in order to test their productiveness and early qualities; and as many or more varieties of the potato, cultivated for the same purpose.

Mr. C's farm is not a large one, but well managed and very productive. His manures are applied to crops that will be the most benefited by them, such as corn and roots, and these alternating with grain and clover constitute a profitable course of husbandry. We here witnessed another proof of the great superiority of manure from the hog yard, over all others, in bringing forward rapidly and giving a great growth of corn. Common stable manure appears entirely inefficient, compared with it. An experiment on a small scale, of the application of ashes to corn as a top dressing, gave most satisfactory evidence of the utility of such a measure. It was the 20th of July, and he assured us he had in his garden corn fit for boiling. We question whether many farmers in latitude 43° could have said the same. We saw in his garden a quantity of the Sweet Water and Isabella grape vines. He told us, that he had for some time attempted to grow fruit on them by training on frames, unsuccessfully, but now, as they lie spread over or near the earth, we found them loaded with fine clusters. We saw in 1838, in the garden of the Hon. E. Edwards of Sodus Bay, grapes, the vines of which were spread over frames only a few inches from the earth, and which were laden with the finest fruit. Is not proximity to the earth more desirable in the more delicate varieties of the grape, than in hardier or common kinds?

Mr. C. has invented a machine, consisting of a beater, running in a spiked cylinder, and worked by the power attached to his thrashing machine, by which he cleans clover seed after the chaff has been separated from the straw, most expeditiously and effectively. We understood him to say, that from 12 to 14 bushels might be turned out daily. To exhibit the advantages of draining, he mentioned a field of his, formerly nearly worthless, which was thoroughly underdrained, the whole expense of which was more than repaid by the additional value of the first wheat crop, and which we now saw was covered with a luxuriant crop of clover and timothy.

Another hour of our excursion was spent on the farm of E. MARKS, Esq. in examining some of the improvements he has made and is making on his farm. The farm is of the same general character as Mr. Cummings', but more level, and containing in the soil, perhaps, a little less sand in the composition. We have known the

farm owned by Mr. Marks, for more than thirty years. It was naturally good, although from its position some part of it was always too wet for profitable cultivation, but it had passed through several hands, not very skillful managers, and when purchased by Mr. Marks, a few years since, it was in the condition, termed "completely run down." After putting the buildings, fences, &c. in order, the attention of Mr. Marks was directed to the low, sunken "swale" that crossed his farm nearly in the center, the timber of which had been cut off, but which to the extent of several acres produced nothing but coarse grasses, unfit for meadow or pasture, and was wholly unfit for tillage, on a large part of which, indeed, it is believed, it had never been attempted. To drain this thoroughly, was the first object. This was effected by a skillful series of cuttings, some of which required considerable depth, but which succeeded most admirably in draining the swampy ground of its superabundant water. It is now one of his most productive fields, and is covered with corn of the most magnificent and promising growth. The corn in this field is the yellow, and the red blaze. Both Mr. MARKS and Mr. CUMMINGS, have small fields of the Brown corn, which we aided them in obtaining from his Excellency Gov. HILL, of New-Hampshire, which are very promising, and of which we hope to be able to give a good account hereafter, though the late season at which the seed was received, very much lessens the probability of a good crop.

Encouraged by the success of his first experiment in draining, Mr. Marks has extended his operations, and has already laid upwards of 700 rods, and intends to put down more. Those parts of his farm which were considered worthless, are now among the most valuable and productive, and although the expense has been considerable, his augmented crops are repaying it with accumulated interest. The beautiful crops of corn, potatoes, and roots, now growing on what, only two or three years since, could scarcely be made to produce coarse grass enough to feed a calf or sheep per acre, afford an argument in favor of thorough draining, more powerful than any which mere theory could devise.

Mr. MARKS has cultivated roots extensively for several years past, including the carrot, turnep and the sugar beet. His crop this year of these plants has a fine appearance, though some of the seeds planted failed to germinate, causing the sugar beet and the carrot to have a somewhat unequal growth. His experience with roots, both in feeding animals, and in making pork, is such as to give him a high opinion of their value, and induce him to give them a prominent place in his system of cultivation.

Last year, in order to store his increased products, Mr. MARKS built him a new barn, of a construction differing from ordinary ones, and which is unquestionably, in many respects, a decided improvement on the common system of building. It is built on a gentle declivity, with an underground apartment, and adjoining cellar, the last dug into the earth, with heavy stone walls, pointed with lime mortar. The part not occupied by the cellar, is neatly enclosed, with windows and doors, forming a retreat for his stock from storms, and a place for folding ewes and lambs in the spring of the year. The height of the barn is another point in which it materially differs from common ones. The upper part, or that which is intended for the reception of grain, is 20 feet from the sills to the top of the plates, which, added to the size of the building, gives an opportunity of securing a large quantity of grain, without being obliged to have recourse to stacking. Mr. Marks is very careful in his management of manures, and he remarked to us that one load made and kept where it was not liable to be leached by the rains, and its salts wasted by washing and evaporation, was worth two which had lain exposed in the yard through the season.

Mr. MARKS was one of the first to introduce the pure Berkshires into Onondaga, and although unfortunate in not having any progeny from the first sow he purchased, the attempt has rendered essential service to the farmers of that section, as the pigs of various grades abounding in the neighborhood, prove. We have had the present season, various opportunities of observing the greater ease with which a Berkshire pig can be kept in good condition, by noticing such as run in the same fields, with others of the common breeds, and all faring in every respect, precisely alike.

As the efforts of Mr. Marks have been principally directed to the culture of grain, in connexion with the permanent improvement of his farm, he has not paid particular attention to stock, with the exception of pigs and sheep. He has, we believe, a few animals of the Short Horn cross, but the experience of our wheat growers seems to have decided that sheep and clover, are better than cattle and clover on a grain farm.

It would unquestionably be greatly for the interest of agriculture, if every neighborhood of farmers contained a few such men as Messrs. Cummings and Marks. Their influence is beneficially felt, even when their efforts are doubted or derided. Farmers, as well as other men, will imitate when they find it is for their interest. The draining of one such swamp as that of Mr. Marks, and the subsequent crops, would convince a hundred disbelievers in the theory of draining. It is needless to say, these men are reading, as well as acting, practical farmers. On their tables we saw many of the back volumes of the Genesee Farmer, an entire set of the Cultivator, and the excellent Monthly Visitor of our friend Gov. HILL.

BONE DUST.

Considerable quantities of this material are used at the present time in this country as a manure, and so far as we have been able to learn, with the best effect. It is to be hoped the use of the article will extend, until what is now frequently looked upon as a trouble and a nuisance, shall be converted into a substance most useful to the farmer. Immense quantities of bones have heretofore been cast into the rivers and sea, in our country, from soap boilers' works or other places where they accumulated, or have been shipped and sent abroad to benefit the agriculture of other nations, at the expense of our own. Some farmers appear to have doubted the efficiency of bone dust, but experience in most cases has dissipated such impressions, and shown that for ease of application, and immediate energetic action, bone dust has few or no rivals among the manures. That such should be the case, the nature and composition of bone would lead us to expect.

According to the chemical analysis of Fourcroy and Berthollet, bones are composed of a variety of matters, which for convenience sake may be divided into two kinds; animal matters and earthy matters. The first class consists of *gelatine, animal oils, fat and albumen*, to the amount of about 25 per cent; the second class, or the earthy materials of bones, consist of *phosphate of lime, carbonate of lime, fluato of lime, sulphate of lime, carbonate of soda*, and a small portion of *muriale of soda*; the whole amounting to about 72 per cent. All these articles are more or less efficient in promoting the growth of vegetation, and many of them are essential to the formation of plants, being found to constitute a greater or less portion of them.

Animal matters have always been known as among the most active fertilizers; and this power is supposed to reside principally in the nitrogen or azote such matter contains. They also decompose readily, and consequently become available very quickly; and to this cause the speedy action of this manure must doubtless be attributed. The most familiar use of animal matter as manure, is perhaps to be found in the general use of fish on the sea coast of this country, as a preparation for corn land. A gentleman residing in the country who always has a fine kitchen garden, stated to us a short time since, that having a quantity of what is called halibut fins, of a rather inferior quality for cooking, on hand, he determined to make the experiment of depositing a small piece under the earth of each hill of a bed of cucumbers he was then planting, with the exception of a few reserved as a contrast. The result exceeded his expectations altogether. The hills so manured were far more vigorous in their growth than the unmanured, their production was greater, and the products earlier than from the others. As it is clear that the value of bones is depending very much on the quantity of gelatine and oil or fat they contain, any bones subjected to a process that deprives them of these ingredients, must render their dust far less valuable than that made from bones not so treated; and hence bones that have been boiled in ley to extract the fat, are not as rich in fertilizing materials as those not so used.

The earthy matter of bones comes under the denomination of mineral manures, and setting aside the fluato of lime, of which mere traces only can be detected in plants, there remains no less than five active materials as specific manures, in the earthy part of the bone. Next to the carbonate of potash and lime, there is no salt of such extensive use in the structure of the plant, as phosphate of lime; and its presence in the cultivated plants of wheat, barley, peas, beans, oats, corn, and most of the leguminous and garden plants, proves that to these it is at least necessary. The same may be said as to most of the other earthy salts found in bones, and accounts most satisfactorily for the efficient action they are found to have as manures.

Experience proves that doses of bone dust repeatedly made to land, in a short time lose their efficacy, in the same manner that lime loses its power of promoting vegetation by long use. This may be attributed to two causes; first, as but a small quantity is required as a specific manure for the use of plants, a larger quantity than is required for this purpose must in this respect be useless. Secondly, as the fertilizing property of bone dust, especially the animal part of it, is in a great degree depending on the organic matter already existing in the soil, it is clear that repeated applications of bone dust, without corresponding additions of other vegetable manures, will in time cease to produce the desired effect on soils. It is in this way, and this way alone, that lime, gypsum or bone dust can be termed exhausting manures. When this occurs, the remedy is easy; a rotation of such crops as do not require mineral manures, but to which farmyard manure is of great service, or in which clover, fed off upon the ground by sheep, forms a prominent part of the course, will soon do away the objection that bone dust is inert and worthless.

LARGE FLEECE.—A fleece, weighing twenty three pounds, was taken at the present year's shearing, from a Cotswold ram, owned by J. Gould, Pottimore, Eng.

COMPOST MANURE.—M. Quenard, an experienced cultivator of France, recommends as perfect, a compost prepared as follows:—1. A layer of green stuff taken from a pond. 2. A layer of quick lime, ashes and soot. 3. A layer of straw and green grass. 4. The same as first. These layers to be repeated as often as need be. Holes are then made through the several layers, and sufficient water introduced to saturate the mass, and cause a thorough mixture of the vegetable and alkaline substances.

DICTIONARY OF TERMS USED IN

Agriculture and its Kindred Sciences.

CLOVER. (*Trifolium*.) This valuable plant constitutes a numerous family, botanists reckoning nearly sixty of the cultivated varieties. Of these the most common are the *Trifolium pratense*, or red clover, and *Trifolium repens*, or white clover. Clover will grow in any soil that is not too wet, but its favorite soil is a deep sandy loam, and on this its produce is usually great. The long tap roots of the red clover penetrate deep into the earth, and it will of course flourish in a soil so dry as scarcely to support any other grass or plant. All calcareous matter, or the salts of lime, as the sulphates and phosphates, the carbonates or marls, are excellent for clover, and plaster or lime will cause clover seeds to spring up from soils in which they must have lain dormant for a long time. White clover is a natural grass of the United States, succeeds best on a light soil, and when mixed with other grasses, as timothy or rye grass, makes a first rate hay. Clover seeds, in all countries where severe frosts occur, should be sown in the spring, and of the spring grains, none are perhaps more favorable to its taking well, than spring wheat. It is found by experience, that clover plants from seed put into the ground in autumn, are more apt to be frozen out, than when the roots have had a summer's growth. Some sow the seed on the land after the harrowing is done, but the best way is to sow the seed with the wheat, or other grain, and harrow it in with that. Seed scattered on the surface may vegetate, but many will fail, and the plants will not be as vigorous and well rooted, as if covered with the grain. Great care should be taken that none but pure seed is sown, as much foul stuff is put into lands with grass seeds. Johnswort, sorrel, dock, and Canada thistle seed may sometimes be detected in clover seed; and so liable are farmers to be deceived, that it is better for them to grow their own seed, unless so circumstanced that they can be satisfied of the purity of that they can purchase. Growing best on soils that are suitable for wheat; like that plant, requiring calcareous earths or manures to arrive at perfection; it has become associated most intimately with the culture of wheat, and in the best wheat growing districts of the United States, its presence in the wheat rotation is indispensable. In some places clover and wheat, the latter crop every third year, is the simple and profitable course pursued with manifest improvement to the soil and the crops. Clover makes the best of pasturage, and when cut for hay, if properly secured, is unrivaled for the horse and sheep. It requires, however, considerable skill to make it into hay without its either losing its leaves from over ripeness or dryness, or becoming mouldy by the moisture not being removed from its stems in the process of haying. There is no plant of which swine are more fond than of clover, and when allowed to run in a field of it, their rapid thrift is the most convincing evidence of its suitability for them. Clover lasts in full vigor not more than three years, and it is usually turned under for wheat at the expiration of this time, its long tap roots and the decaying tops furnishing one of the best dressings that can be provided.

COAL. This invaluable article is very widely distributed, and embraces several varieties. The first is called *anthracite*, and being destitute of bitumen, burns with more difficulty than any other. This obstacle has been overcome by the invention of peculiar grates and furnaces, and as it is composed almost entirely of pure carbon, is destitute of any unpleasant smell, perfectly safe, and very durable, it has come into extensive use as fuel in the United States, as well as other parts of the world. Pennsylvania is the region of anthracite in this country, though it occurs elsewhere in smaller quantities. In no part of the world can it be obtained so easily and in such quantities as on the Schuylkill, Lehigh, Susquehanna and Lackawanna; and the coal trade of the eastern part of Pennsylvania, furnishes no inconsiderable item in its prosperity. *Bituminous* coal is another variety, and is much more widely distributed in this country than the anthracite. It contains bitumen with the carbon, whence its name; it burns readily, and is extensively used by blacksmiths, in furnaces, and for manufacturing purposes. As fuel for the family, it is less agreeable than anthracite or even wood, the strong bituminous or sulphurous odor being unpleasant to all. Miners divide coal into slate coal, foliated coal, coarse coal, cannel coal, pitch coal, &c. from the different appearances and qualities it exhibits. There is scarcely a substance found in the bowels of the earth, of more consequence to man than coal, and one can hardly look on the immense stores of it so deposited, without conceiving there was design in the preparation of such an inexhaustible supply of fuel for the use of man, when the forests that long covered the earth should be removed to make room for a continually increasing population. It seems at the present time scarcely to admit of a doubt, that all coal has a vegetable origin; and the gradation can be traced by almost insensible steps, from the scarcely bituminated wood, up to the perfect coal, and purest carbon. In most of the kinds, the trunks of trees, branches, fruits, and foliage, can be distinctly recognized in the masses; and the character of the beds, and their relative position, furnish the geologist with interesting facts and data, in determining the earlier history of the world. When coal is burned in close vessels, the bituminous part is driven off in the form of carburetted hydrogen, or inflammable gas; and it is in this way that the vast quantities of gas used in lighting our cities are mostly prepared. The coal so treated pos-

sesses the qualities of common charcoal, and is used like that. It is called *coke*, and for many purposes is far better than in its first state. Charcoal is wood burned in pits or close vessels, and is so called to distinguish it from that found in the earth and produced by mining.

COMPOSTS. Animal manures combined with earths, and rendered fine by decomposition, are called composts; and when the preparation of them is well managed, a great increase in both the quantity and quality of manures on a farm may be obtained. Where the dung of the stables or the barnyard, is allowed to ferment before it is placed in the field, or in situations, where it is uncovered or unmixed with some substance to absorb and retain the gases generated, a great loss to the farmer of nutritive matter certainly ensues. To avoid this, and provide a supply of fine manure indispensable in gardening, and some other farm operations, it is found an excellent plan to mix the vegetable matter of swamps, the muck of drains, wash of roads, peat, &c. in heaps with the unfermented manure, and in this way the insoluble part of the vegetable matter used is prepared to become the food of plants, while they at the same time serve to prevent the escape of matter from the fermenting mass. In preparing these heaps, the manure, and the muck, or the earth, (for even arable earth will be better as an absorbent mixed with the fermenting dung than nothing,) is placed in layers until the requisite height is obtained, when it is left to ferment and decompose. If the heat rises to much over 100°, the pile should be shoveled over, and this incorporation of the materials will check the too rapid fermentation, and promote the fineness and quality of the compost. Another mode of making compost, and perhaps the best, where it can be adopted, and there is no fine manure required, is to carry on the field the proceeds of the stables and yards, spread them, and turn them thoroughly under with as little delay as possible. A compost is also made by spreading the yard to the depth of ten or twelve inches, with swamp muck, or other earth containing insoluble vegetable matter, and allowing this to receive the wash of the stables, manure, &c. As the straw, hay, dung, urine, and other matters, will, in the course of the winter, become, by the trampling of beasts, thoroughly incorporated with the added earth, the volatile salts which are so apt to escape, as well as those which being soluble are washed away by the rains, are retained, and the quantity of manure is most beneficially augmented. In this way on some farms where but comparatively small numbers of stock are kept, from 500 to 1000 loads of manure are annually obtained, and the fertility of the farm rapidly increased.

CORN. (*Maize*.) This plant is one of the most interesting of the *graminal*, rivaling the rice and the sugar cane of the tropics; and in the United States, in the opinion of some, ranking in utility higher than wheat itself. European writers place it in the third rank, as a plant bearing food, giving rice and wheat the preference, but it is there comparatively uncultivated, and its value little understood. In England, and all the northern countries of the eastern continent, the temperature, though excellent for wheat, is too low for corn, while the hot summers of this country render it one of the most certain and valuable of crops. America is undoubtedly the native country of the maize or Indian corn; since, though corn is mentioned in the earliest records of the world, it is evident that by the term was understood the common grains, such as wheat, barley, &c., and not a shadow of evidence can be adduced to prove that such a plant as the maize was known previous to the discovery of the American continent. There are many varieties of Indian corn known, of which the most prominent are those distinguished by color, as the yellow, white, red and blue; those that have different numbers of rows as the eight, ten, twelve, sixteen, and twenty-four rowed kinds; those that differ in taste, as the common or sweet kinds, and those that have peculiarities in the shape of the kernels, as the common northern round corn, the gourd seed corn, the rice corn, and the Texas corn, each kernel of which has a separate husk or envelope. Dr. Brown of Pennsylvania, in his excellent treatise on corn, enumerates thirty-five of these varieties, and several have since, with propriety, been added to his catalogue. Indeed there seems no reason to doubt that this plant, like the potato, may be greatly improved by cultivation, and that varieties may be multiplied to any extent by judicious selection of kinds, and crossing by careful impregnation. Corn is usually the first crop in a regular and well conducted rotation, coming on the lay, and requiring a heavy manuring. There is no plant cultivated, that bears heavy manuring so well as corn, while there are many to which fresh manure is decidedly injurious; and by applying it to the corn crop, that is highly benefited, while the manure undergoes the decomposition that fits it for the use of the succeeding one. The quantity of corn grown in the United States is immense. It has been variously estimated within a few years at from one hundred, to one hundred and fifty millions of bushels, and when we consider that it is produced to a great amount in every part of the country; that it is used as food for man and for beast, we shall be justified in believing that it does not fall materially below the highest estimate.

COULTER. The iron which is attached to the beam of the plow, immediately before the share, and with its sharp cutting point, by dividing the turf renders the operation of plowing more complete, is called a coulter. It is constructed and applied in many ways and forms, but the object is nearly the same in all, the cut-

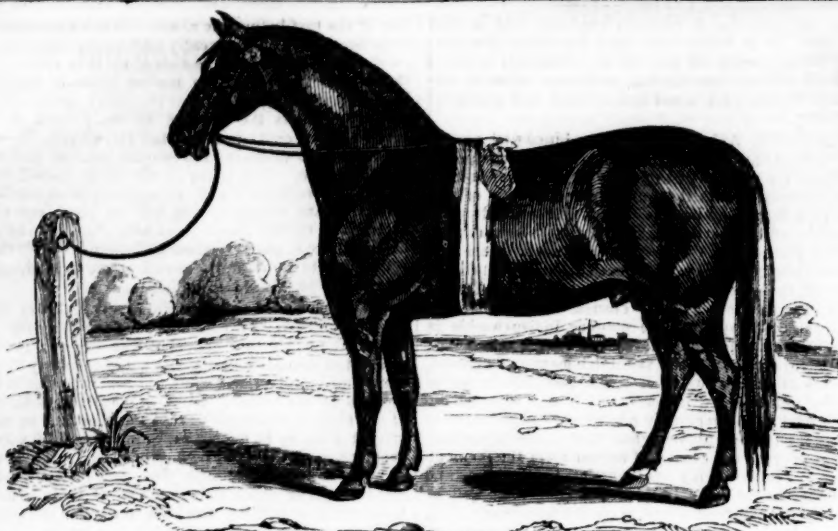
ting of the turf before the share. When properly made and affixed, the coulter greatly lessens the force required on the plow to turn the turf well, as it is easier to cut than to tear or break the matted roots of the grass. The coulter should be as near the share, as can be conveniently, unless the surface to be plowed is very level, and the depth is regulated by wheels, in which case a greater distance between the coulter and share is admissible. The point in all cases should be set slightly forward, as it will, if inclining backwards, exert a constant tendency to throw the plow out of the earth. The cutting should be as near the line to be made by the share as possible, though if there is any deviation it is found to be better to have it made to land, as the plowman's phrase is, than otherwise.

COW. One of the most useful and valuable of all animals is the cow. Perhaps there is none in a very large part of the world that contributes so essentially to the comfort of mankind as the cow; and certainly there is none that better repays what care and attention is given to them by the owner. Milk, in many respects, is one of the most indispensable articles of food, and by far the largest quantity in nearly all countries used for human sustenance, is obtained from this animal. The cow is in prime condition for milk, from four or five years of age to eight or nine; though many of them retain all their valuable milking qualities to a much later period. In all temperate climates, the cow and her products, of milk, butter, cheese, and beef, constitutes one of the most important items in the profits of agriculture. By paying attention to the breeding of the cow, with particular reference to her milking qualities, they have been greatly improved in this respect, though as a general rule, the tendency to be a great milker is found to be incompatible with that of great size, and ready fattening. We much question whether instances among our native breeds of cows cannot be found which fully rival in quantity and quality the best milkers of the improved breeds; but the difficulty in such cases lies in the fact that the heifers from such cows do not always partake of the milking qualities of the parent; while those which have been bred with reference to this point, rarely depart from it. Some of the finest dairies in the United States, and which perhaps will exhibit as great a product in proportion to the number of cows kept, as in any dairies in the world, may be found in the western part of Massachusetts, and the northern part of Connecticut, in the counties of Berkshire and Litchfield. The quality of the products of the dairy, depend in a great measure on the sweetness and purity of the herbage on which they feed; and the fine clovers and grasses of elevated pastures are better for milk than the coarser and more luxuriant herbage of lower and richer lands.

CRADLE. The cradle is an implement of agriculture of comparatively modern invention, and is intended to aid in cutting and gathering grain, which, when well constructed and skillfully used, it does most materially. Formerly the sickle was relied on in gathering the grain crops, now, unless on new lands, its use is mostly abandoned. The cradle consists of a broad scythe connected with a snath and light frame work, the fingers of which, projecting in a line with the scythe, gather and retain the straw as it is cut in the semicircular sweep of the implement, until it is deposited on the earth in a position for binding into sheaves. Serious objections formerly existed to the use of the cradle in the wheat field, as with the clumsy implement as first used, much grain was lost that might have been saved by the sickle; but now a skillful cradler, with a good cradle, followed by a competent raker, will in the wheat field lose little if any more than the sickle, and a saving of at least one half the time will be made. When we compare the ancient cradle, as delineated in the books of agriculture, and even those now used in England, with those constructed at this time in this country, we shall cease to wonder at the objections made to their use, and be convinced of the great improvements effected in their making. The best implement of the kind, is the one termed the Mooly cradle, in which a very curved snath is used, and the weight of the grain when on the implement, brought so much nearer the operator, as materially to lessen the labor and fatigue of carrying it, while it cuts the grain with great evenness, and of the desired width.

CULTIVATOR. This is an implement of agriculture, the use of which is to loosen the earth between rows of plants, so as to destroy weeds, and give the earth and plants the benefit of atmospheric influence. It is formed of a central piece of timber with diverging moveable side pieces, into which shares or points of iron are fixed, and the whole, drawn by a horse, pulverizes and stirs the earth, without penetrating so deeply as to injure the roots of the plants under cultivation, as is sometimes done by the common plow, particularly in crops of corn and potatoes. In preparing these plants for hoeing, the cultivator is now generally used in preference to the plow, as possessing all the advantages of that implement, with none of its disadvantages. As with the plow, so with the cultivator; a great variety of these implements have been placed before the public, the general principle in all the same, and differing only in the details and construction.

"The Practical Farmer, Gardener, and Housewife," is the title of a volume recently issued at Cincinnati, by EDWARD J. HOOPER, editor of the Western Farmer. It is highly recommended in the papers of that city, and is no doubt a valuable work.



THE SUFFOLK HORSE BRITTON.—[Fig. 78.]

As a representative of this excellent breed of horses, considered in England for use on the farm, or for heavy draught, as unequalled, we copy from the London Farmers' Magazine, a portrait (fig. 68,) of the horse that received the first prize as a cart or farm stallion, at the meeting of the English Agricultural Society at Oxford, 1839. "He is a bright chestnut, eight years old, sixteen and a half hands high, full of bone, and of admirable symmetry, good constitution, and staunch worker. Britton is one of the fastest walkers, and best tempered horses, that ever traveled Suffolk, or any other county."

According to Mr. Youatt, and other high English authorities, the Suffolk horse, originally descended from the Norman stud and the ancient Suffolk mare, is the very best horse in England, for those kinds of labor in which activity is combined with great strength and powers of endurance. The true Suffolk, like the Cleveland race, a cross of which with the full bred, has given England her hunters and carriage horses, is almost extinct. Some few however, remain, and the breed is in great request in the neighboring counties of Norfolk and Essex, both for the farm and for breeding. Some of the most highly prized carriage horses of the Duke of Richmond, combining strength, activity and figure, were obtained by crossing the Suffolk with one of his best hunters.

Mr. Youatt, in speaking of the Suffolk Horse, says—

"The excellence, and a rare one, of the old Suffolk, (the new breed has not quite lost it,) consisted in nimbleness of action, and the honesty and continuance with which he would exert himself at a dead pull. Many a good draught horse knows well what he can effect; and after he has attempted it and failed, no torture of the whip, will induce him to strain his powers beyond their natural extent. The Suffolk, however, would tug at a dead pull, till he dropped. It was beautiful to see a team of true Suffolks, at a signal from the driver, and

without the whip, down on their knees in a moment, and drag every thing before them. Brutal wagers were frequently laid, as to their power in this respect, and many a good team was injured and ruined. The immense power of the Suffolk, is accounted for by the low position of the shoulder, which enables him to throw so much of his weight into the collar."

Some traces of the Suffolk horse, may doubtless be found in the United States; but we are not at present aware that any attempt to introduce this breed, as such, has been made among us. There appears scarcely a room for doubt, that a breed such as the Suffolk is represented to be, is precisely the one wanted by our farmers, to work their fields, draw their grain to market, or make their team and wagon horses. Lively, fast walkers, strong constitutioned and hardy, good tempered, honest, never trickish or baulky, and a well built, handsome horse, it appears to us to combine most of the qualities desirable in an animal intended for labor, rather than show, for use rather than to be petted and admired. Some attempts have been made to improve our horses, by crossing with the small hardy French Canadian horse, with our large common mares; but we have some doubts as to the success of the measure, it having wholly failed in Virginia, where, a few years since, the experiment was fully tried. It is not desirable to make our farm horses smaller; what is wanted, is to give form, firmness, constitution, and fitness for draught; and for this, we should altogether prefer horses like the modern Suffolk, the Cleveland cross, or some of our horses that have blood enough about them, united with a sufficiency of bone and muscle, to ensure activity and endurance. We think some of the gentlemen engaged in introducing first rate animals from abroad, would confer a great benefit on the country, by bringing to this country a Suffolk horse, whose descent, and the character of his colts, are alike indisputably good.

WORK FOR THE MONTH.

September is the month in which the great staple crop of the north is put in the ground. Experience has shown, that, unless in extraordinary cases, wheat sown in this month succeeds better than in any other. August is too hot, generally. The ground is dry, the dews which aid the young wheat so materially, fall sparingly, and the germination and first growth is imperfect and comparatively feeble. If sown much later, unless very late, it does not get rooted sufficiently to endure the winter well, and frequently suffers much from freezing out. We take it for granted your ground is in good condition, thoroughly fallowed, free from every vestige of a weed, fine, and rich from previous, not recent manuring. The quantity of seed on such land should be about a bushel and half per acre, and it should be harrowed, not plowed in, as the plow will cover some of the seeds too deep for vegetation. Wheat has two sets of roots, one set near the surface, and the other deeper. If covered too shallow, the two sets are confounded in their growth; if too deep, the connecting part of the root, uniting the two sets, becomes feeble, from its length, and the shoot if thrown up at all, is imperfect. Do not fear harrowing too much after the seed is sown, and a heavy harrow is better than a light one, unless the soil itself is very light. Passing the roller over the new sown grain is an improvement, as it ensures germination, and leaves the surface in a suitable state for gathering the grain. Prepare your seed by brining, and liming it. You may not fear smut, but the young plant will be sufficiently benefited by the process, to reward the trouble. Above all things use clean seed. Trust no man's word that his seed is perfectly clean, unless a few handful spread on the table and examined thoroughly, show that it is free from every thing but pure wheat. The farmer who examines seed wheat in this way, will be surprised to find how little clean wheat actually exists. The man who sows charlock, steinkrout, or cockle must expect to find such plants spring up to plague him for years. Look out for chess; if you sow it, it will grow, and your wheat field will be adduced by the careless, as proof that wheat has changed to chess. If any part of your field is liable to injury from surface water, lay out

your water furrows so as to remedy the difficulty. Water standing on wheat makes the ground heavy, injures the plant if it does not destroy it, and in the spring, renders it liable to freeze out. Make your water furrows before the plow leaves the field, and afterwards see they are kept clean with the hoe.

Selecting seeds is one of the most important items of the farmer's business. The farmer who pays proper attention to this subject, will not only find he has made quite a saving in the course of the year, but that he is more certain of their quality than when purchased in the usual manner.

In our climate it is always very desirable to have our vegetables and plants come forward and mature as early as may be; and as the first and most perfect vegetables give the best and earliest seeds, such should be selected for this purpose. It is a common practice to use all the earliest plants, or fruits, and trust to such as are later for seeds. This is a very injudicious practice, and should never be adopted where seed is wanted. In saving seeds from plants liable to crosses, as beets, squashes, &c. care should be taken to select from those least in danger from such action, and of course from those the farthest removed from each other.

Hops should be gathered as soon as matured. If left long after this period, they rapidly part with the rich material which gives them their principal value. They should be allowed to hang until bleached and dried on the vine, but gathered and dried in the shade. Every farmer should grow his own hops, and they are essential not only in making good beer, but in many of the culinary operations of the housewife. When well dried, they must be packed in bags, and kept where they remain dry. Exposed to the air, they lose much of their peculiar aroma, and depreciate in value.

If your hoed crops have been properly cultivated, they are now free from weeds; still, as it is a practice where the Canada thistle prevails, and one founded on correct principles, to plant and hoe such lands, it may be well to look over the corn, potato, and other crops, and see that none of these weeds escape. A piece of ground kept perfectly free from vile weeds one year, is in a fair way to be recovered from their dominion. To

succeed in their extermination, the advantage gained must be followed up, and neither respite or reprieve allowed. A few hours' work properly applied now, may save the labor of weeks hereafter.

Don't be in a hurry to let your animals into your meadow lands. If you do not allow them to be fed off at all, you will probably be the gainer, but if fed at all, it should be reserved for sheep and lambs in the spring. In but few cases is it advisable to cut the second growth for rowen; such repeated mowings exhaust the roots too much, much more than grazing, from the time and manner of their performance.

If the lands you are intending to put into spring crops next year, are infested with weeds of any kind, there will be an advantage in plowing it once if not twice before winter. If the wire, or cut worm is in it, fall plowing is advantageous, as exposing the larvae or chrysalis of these pests, to such atmospheric changes as are fatal to many of them. The roots of many weeds are also destroyed in the same way; and as frost is one of the best pulverizers to which soil can be exposed, heavy lands are much aided in preparation for spring crops, by fall ploughing.

There are many herbs used for culinary purposes, such as sage, summer savory, parsley, &c. and for medicinal purposes, such as tansy, wormwood, arsmart, penny royal, &c. which should be saved as they arrive at the proper state. They are generally in their greatest perfection, when the foliage is fully expanded, and they begin to flower. At this time in a dry day, they should be collected and dried in the shade. When the moisture is entirely exhausted, they must be pressed into masses of four or five inches square, papered and labelled. Put into a dry box and in a dry place, they may be kept almost any length of time. The farmer during the winter finds occasional use for herbs in treating diseased animals, and the want of them or the trouble of procuring them, in running over the neighborhood to beg them, is far greater than that of saving them.

Where it is intended to sow wheat after corn, this crop should be cut up and removed from the ground as early as its maturity will admit. If the ground is well manured for the corn, as it always should be, and well cultivated, a crop of wheat may properly follow corn, and but comparatively little labor in plowing is required to get in the seed. We have seen very fine wheat raised after corn; and as many experiments go to prove that corn cut up by the bottom is superior to that ripening as it grows, or that is topped, it would seem the practice might be advantageously extended.

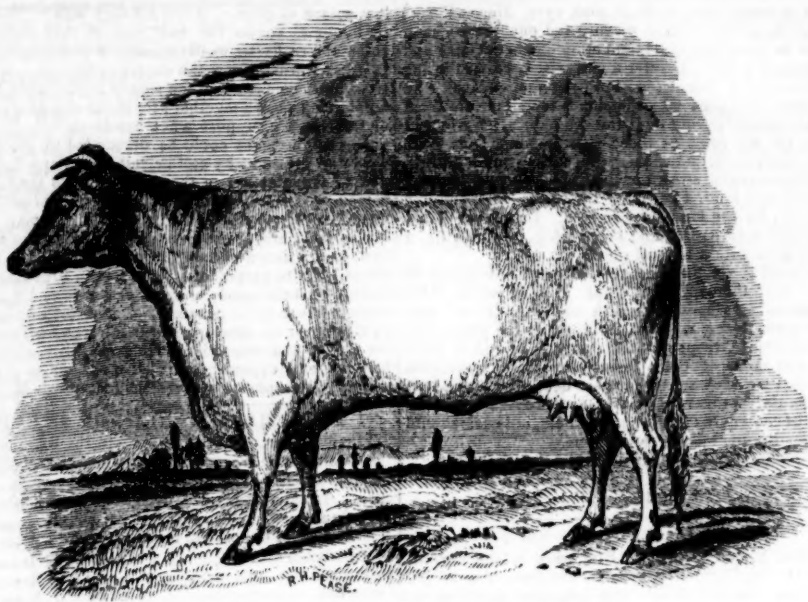
Cattle and swine intended for fattening should now have increased attention paid to them. Although the fact is generally known, that animals will take on fat much faster in moderate, or warm weather, than they will in cold uncomfortable weather, it does not seem to have influenced the course of farmers as much as it should. The same quantity of food will give a far greater amount of pork in September and October, than in November and December. Begin to feed them as early as your means will admit, and you will probably find your account in the method. Dealers in pork may not like to have their operations commence too early; but when meat is making for home consumption, this objection does not apply.

MILKING.

"Is there any remedy to keep a cow from holding up her milk? or in other words, to make them give it down when weaning the calf? I have two cows that hold up their milk at such times, so that they would dry themselves up in a short time; one of them I have milked for two hours at a time, and could get but very little milk, and then let in the calf and she would give it down in a moment. I have been compelled to let my calf suck through the summer and fall to get any milk. Any information on the subject will be gladly received. Middlebury, Ia. July, 1840. A. FREEMAN."

Gentle treatment at all times; accustoming the heifer to having her udder handled before calving; and milking her at first while the calf is about her, if she shows any disposition to retain her milk, will usually prevent a cow from holding up her milk. We have never had a cow addicted to this practice, and we know of no remedy for the habit, disagreeable as it is, when once contracted. A writer in a former volume of the New England Farmer asserts that placing a rope around the horns of a cow when in the stanchels and drawing her head high while being milked, will not only prevent her kicking, but is a remedy for her holding up her milk. This may be reasonable, as elevating the head, must prevent that contraction of the muscles, and curvature of the back, always observed when a cow holds up her milk or kicks. If any of our correspondents know a remedy, and will communicate it, it shall have a place with pleasure.

SOWING GRASS SEEDS.—A correspondent of the *Franklin Farmer*, recommends that where the grass is wanted for pasture, a mixture of timothy, red clover, and blue grass be used; but where it is wanted for hay only, timothy alone is to be preferred. Red clover and blue grass have been found not to answer for meadows in Kentucky, according to this writer, who recommends sowing timothy in September, on ground well prepared by plowing and harrowing. It should be slightly harrowed or brushed in. He sows clover on rye in the spring, after the rye is sufficiently advanced for pasture, and then turns in his stock to feed on the rye until the seed is about to germinate, when the stock is taken off.



Mr. Vail's Short Horn Heifer Dutchess—[Fig. 79.]

IMPORTATION OF SHORT HORNS.

We had the pleasure a few days since, of making a visit to the farm of **GEORGE VAIL, Esq.**, near Troy. Mr. Vail has within a few weeks, imported from England, and has now on his farm, a bull and a heifer from the celebrated stock of **Mr. T. BATES**, of Kirkleavington, Yorkshire, England.

One of the animals imported by Mr. Vail, is a white heifer, 2 years old, got by the celebrated bull **Duke of Northumberland**, dam **Nonesuch 2d**; the other is a roan bull calf, 9 months old, got by **Short-tail**, dam **Oxford**, the cow which obtained the first prize for the best Short Horned cow, at the meeting of the English Agricultural Society, at Oxford, in July, 1839, competition open to all England.

A beautiful engraving of the bull **Duke of Northumberland**, is in the Sept. No. of the *London Farmers' Magazine*; and from the notice accompanying which, we gather the following facts, as showing the high character of the stock imported by Mr. Vail. This bull is now four years old, and gained the first prize of £30 at the Oxford meeting, as the best Short Horn bull, beating, among other celebrated animals, the famous bull "**Roderick Random**," never before beaten. Mr. Bates' herd of Short Horns, originated from a purchase made of Mr. Charles Colling, and the whole of this family of Short Horns are alone in his possession, and have been so for 35 years. No better proof of the great excellence of Mr. Bates' stock could be adduced, than the fact of his having obtained prizes at the great Show at Oxford, for each of the four animals he exhibited. Mr. Bates states that this tribe or family of Short Horns have always been distinguished not only as quick grazers, with the finest quality of beef, but as giving a great quantity of very rich milk. A cow Mr. Bates bought of Mr. Colling, kept on grass only in a pasture with nineteen other cows, made in butter and milk for some months, above two guineas per week. We further extract from the *Magazine*, one fact, as showing how much animals lose in traveling:

"The live weight of '**Northumberland**,' July 1st, (two days before starting for the Oxford meeting,) was 180 stones; (14 lbs. to the stone,) [2,520 lbs.] on arriving home from Oxford, July 29th, his live weight was 152 stones, (14 lbs. to the stone) [2,128 lbs.] so that he lost 28 stones—nearly one-sixth of his weight, in traveling 20 days."

A large colored print of the "**Duke of Northumberland**," lithographed by **J. W. Giles**, London, may be seen at the office of the *Cultivator*. Of the fine qualities of Mr. Vail's importation, the reader may form an opinion from the preceding remarks, and the engraving of the heifer "**Dutchess**," at the head of this article; an engraving of the bull "**Duke of Wellington**," may appear hereafter.

On Mr. Vail's farm we saw several other Short Horn cows, fine animals; one of which the owner remarked, was milked three times a day, and gave, before the grass was dried up, a pailful at each milking. He has a quantity of fine young stock from these cows, yearlings and calves; also **Berkshires** and other improved animals. The cost of "**Dutchess**," and "**Duke of Wellington**," including purchase money, commission, and expenses to New-York, was about \$1,400. Mr. Vail is a merchant of Troy, yet finds time to devote to the improvement of his farm, and deserves much credit for his efforts in introducing superior animals.

Pedigrees.

A roan bull, [**Duke of Wellington**] bred by Mr. Bates, Kirkleavington, near Yarm, Yorkshire, calved Oct. 24th, 1839, got by **Short Tail** (2621,) dam **Oxford** (having obtained the first prize for the best Short Horned cow, open to all England, in July, 1839, given by the Royal English Agricultural Society,) by **Duke of Cleveland** (1937;) grand dam **Matchem**, cow by **Matchem** (2281;) great grand dam by young **Wynyard** (2559,) sometimes called **Young Wellington**, (page 494 *Coate's Herd Book*.)

A white heifer [**Dutchess**] bred by Mr. Bates of

Kirkleavington, calved May 13, 1838, by **Duke of Northumberland** (1940;) dam **Nonesuch** the 2d, by **Belvidere** (1706;) grand dam **Nonesuch**, page 546, by **Magnet** (2240;) g. g. grand dam by **Major**, (a son of **Minor**) (441;) g. g. grand dam old **Sally**, by a grandson of **Favorite**, (252;) g. g. g. grand dam by **Punch**, (531;) g. g. g. g. grand dam by **Hubback**, (359.)

The above are true Pedigrees, and may be found in *Coate's Herd Book*; see the first, second and third volumes; for the merits of **Duke of Northumberland**, see the print. He has proved himself, and no doubt is the best bull in England of the pure short horned breed. I have in my possession, 19 months old, (*Locomotive*;) from the cow **Oxford**, by **Duke of Northumberland**; he is a very fine animal, in all respects equal to his sire at the same age, now 12 cwt. 3 qrs. live weight—his propensities to fatten cannot be excelled.

(Signed)

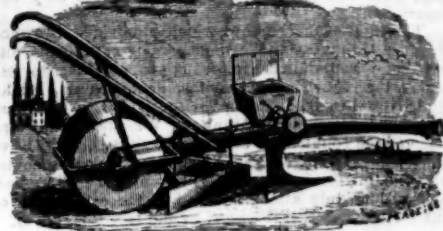
J. C. ETCHES.

December 24th, 1839.

WHEAT AND A ROTATION OF CROPS.

We copy the following extract of a letter, from **J. ALEXANDER, Esq.** from the *Lexington, Va. Gazette*, a journal that most laudably devotes a part of its columns to the dissemination of agricultural intelligence, in which it might, we think, be very profitably followed by a large portion of the political journals of the country. Mr. Alexander's course of cropping would appear to be a very good one; and we have no doubt, a farm so cultivated would rapidly improve. Here at the north, a more mixed husbandry would in general be deemed advisable, and the keeping of cattle combined with the growing of grain. To do this to advantage, the culture of roots is nearly indispensable, and by making the course one of five years, instead of four, these might be properly included in the rotation. Although Mr. A. does not state the fact, we presume his manure is now applied to the corn; if roots were to be included in the course, a portion would be required by them, but the cattle and sheep they would feed, would furnish the adequate supply. Mr. Alexander received the premium for the best ten acres of wheat, awarded by the *Rockbridge County Agricultural Society*, and offers to undertake with either of his shifts to raise more corn and wheat, taking the two crops together, than can be made on the same quantity of land by any other person in the county.

"I have for a number of years pursued what is called the four shift, or four field system. I divide my arable lands into four equal parts; in field No. 1, I commence with corn, fallow it up deep early in the winter, harrow it well in the spring, lay it off in horizontal ridges, throwing three furrows together, at four feet and a half apart. On the 15th of April, I commence planting, splitting the ridges with a small shovel plow, planting the hills at two feet and a half apart, leaving two stalks in a hill, commence working the corn as soon as it is up, and continue it early and late until harvest, and I have done. On the 1st day of October, or as soon as it can be done safely, I commence cutting up the corn, haul it off to an adjoining field, stacking it up into small stacks, fallow up the ground with a large plow, sow the wheat at the rate of a bushel and a half per acre, give it two good harrowings, and sow clover seed in the following March, at the rate of a gallon of seed per acre. I pursue the same course with fields No. 2, 3 and 4, as I come up with them. The operation of the system will be readily observed. The same crop is cultivated on the same land only once in four years, except the clover, which continues two years. It will also be remarked that one half of the land is always in clover, one fourth in wheat, the remainder in corn and oats. Under this system with the application of what manure I can make, together with the moderate use of plaster on corn and clover, my land has improved at the rate of one hundred per cent every ten years. In the application of manure, my object is to bring my land as near to an equality as practicable."

Communications.

Bachelder's Patent Planting Machine.—[Fig. 80.]

This machine, recently invented by **L. & S. H. Bachelder**, of Hampstead, N. H. is one of the most convenient and labor-saving implements ever introduced to the notice of the farmer. It is simple in its construction, certain and regular in its operation. It is calculated to plant all kinds of seed usually planted in hills or drills.

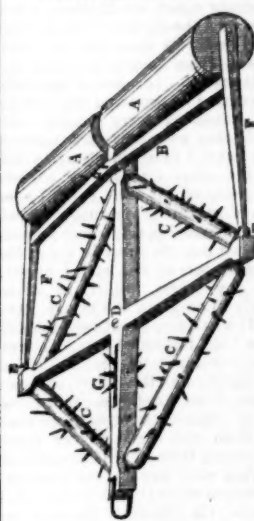
This machine is constructed on principles altogether different from all others for similar purposes. It performs the operation of planting without opening a furrow, thereby dispensing with coverers, that are continually liable to clog, and get out of order. It simply raises the soil a little, and at the same time drops the seed at any distance desired, when the soil falls back to its original place, and is immediately followed by a moveable gauge, that leaves the soil to any depth over the seed that the operator chooses; it also removes all small stones and sods from the place where the seed is deposited.

This machine has been in operation, the past season, and thoroughly tested by practical farmers and mechanics in Massachusetts and New-Hampshire, and is pronounced by them a complete and useful machine, and it is allowed by all who have seen it, to be superior to every other implement of the kind now in use in the United States. It operates equally well on wet or dry ground, and is warranted to work well on any ground that can be furrowed with the common plow.

Orders will be received by **L. & S. H. Bachelder**, Hampstead, N. H. or the subscriber, at Haverhill, Ms. for the planter, or a right to manufacture and dispose of them. Any communication addressed to either will receive attention.

T. J. GOODRICH.

Haverhill, August, 1840.

CASS' REVOLVING HARROW.—[Fig. 81.]

Messrs. GAYLORD & TUCKER—I send you an engraving of a "**Revolving Diagonal Harrow**," invented and patented by **MOSES G. CASS** of Utica, N. Y. together with the report of the committee of Arts and Sciences of the *Mechanics' Institute* of Philadelphia, on the subject. The report was made to the Institute, Feb. 18, 1840, and is as follows:

"**C, C, C, C**, are revolving cylinders working in the frame **D**, by means of gudgeons placed in the ends. Each cylinder is charged with teeth placed perpendicular to the axis, as seen in the drawing. **G**, is a toothed wheel intended to break up the ground that would otherwise be passed over untouched;

being under the lengthwise rail of the harrow. **B, E, F**, a moveable frame supporting the rollers **A, A**, which may be attached to or disconnected from the harrow at pleasure.

"An examination of this machine, and a little reflection, will serve to show its superiority to the ordinary harrow. In its passage over the ground, the teeth enter the earth in all directions, breaking, removing, or tearing up all slight obstructions; while if it meet with a large stone or any obstacle that would throw the common harrow out, the cylinder, which in this machine encounters the obstruction, is enabled by a whole or partial revolution to pass over it.

"An experienced farmer, who has for some time had one of Mr. Cass's harrows in use, remarks that 'by attaching the seed sower and rollers a most perfect finishing operation will be performed, and at a saving of one half if not three fourths of the labor commonly required to do the same work.'"

It is also worthy of remark, that as this harrow never clogs with sticks, stones or sods, or such other obstructions as usually interrupt other harrows, so as to occasion it to be lifted from the ground to clear it, the roller can be used in connection in almost every case; and in fact it is useful in overcoming the sudden lateral mo-

tion which all harrows are liable to. It will be seen that the hinder cylinders cross the track of the forward ones at right angles, which is equivalent to harrowing and cross harrowing at the same time, with only one operation.

The right of this harrow, which is patented, is owned by JESSE HODGKINS of Westfield, county of Orleans, and state of Vermont, in the following states and territories: All of the New England states, Pennsylvania, Michigan, New Jersey, Indiana, Missouri, North Carolina, Maryland, Mississippi, Arkansas, Wisconsin and Florida, and the counties of Clinton, Franklin, and St. Lawrence, in the state of New York, to whom any communication for the purchase of rights may be addressed, and will be duly attended to. For the other parts of the United States, it is owned by the inventor. J. H.

Culture and Diseases of the Potato.

MESSRS. GAYLORD & TUCKER—As the time for commencing the campaign for 1840, has arrived, I think it will not be amiss to call the attention of farmers to the subject of raising potatoes. In order that we may know the expense of raising each crop, it is necessary that each crop should be charged every night with its proportion of the labor of the day, a course which I have adopted for several years, and I find it both pleasant and profitable. Below I will give you the expense of raising potatoes for several years, and then farmers can judge whether it will be profitable to devote more land to that crop than they have usually done.

The cost is, on my whole crop, ranging from two to eight acres, as follows:—cost in labor and manure, per bushel, in 1834, was 12 2-10 cents; in 1835, 12 7-10 cents; in 1836, 18 7-10 cents; in 1837, 10 5-10 cents; in 1838, 12 cents; in 1839, 12 1-10 cents. You will perceive that with the exception of 1836, the cost has not been over 12 1/2 cents per bushel, and that year I had 8 acres, which did not yield 100 bushels per acre.

I have suffered from the curl, for several years past, in a kind of potatoes which I have been raising, which I called 'Long Keeps,' from their excellence as a summer potato. As they are an excellent potato to yield, I have been very loth to lose them, and have continued to plant them. In 1838, they did not curl so as to injure them materially; and in the spring of 1839, I sent a bag of them with pink eyes, to C. N. BEMENT of Albany. When mine, which I had planted, came out of the ground, I found they were badly curled, and I immediately wrote to Mr. B. to examine his, and if possible ascertain the cause and a remedy. In January last, I received the following letter from him, which I take the liberty to publish:

"S. P. RHOADES—Dear Sir: I have delayed answering your kind favor of the 7th of July last, on the subject of 'curl' in the potato crop, hoping I might be enabled to furnish you with something which would throw some light on the cause and cure of the disease. On the receipt of your letter, I immediately went into the field and examined the potatoes (long keeps) you sent me, and found them as you described. In some of the hills the tops were very much curled or shriveled and looked sickly, while other hills adjoining were healthy and vigorous. When planted, they were cut, and two sets put in each hill; in many cases I found in the same hill one healthy plant and the other diseased or curled. They were planted along side of the pink eyes, I also obtained of you, which I examined thoroughly and could not discover a single diseased plant, which I think is pretty conclusive evidence that the cause is not in the soil. I then dug up several sets of the curled plants, and could not discover any worm, insect, or other cause that would be likely to occasion the injury. On another part of my farm, I had planted about one bushel of what I supposed were the 'old fashioned reds,' as they are called. I immediately repaired thither, and found them much in the same situation as the others, more or less curled. On reflection, it occurred to me that these were the product of some potatoes selected from pink eyes, which I received from you some two or three years since; and on comparing them, when harvested in the fall, I was satisfied they were one and the same variety. I afterwards examined several varieties which I had then under cultivation, viz. Rohans, Mercers (or Chenangoes,) Sault St. Marie, Quaddie Blues, and some I obtained from France and Ireland, and could discover no traces of the 'curl,' from which I am satisfied it is in the variety and not in the soil, or caused by the influence of the atmosphere, insect, or worm.

"I find on referring to some of the European magazines and other works on agriculture, that it was very prevalent a few years since in England, and more particularly in Scotland; so much so in Scotland, that the crop in many instances was an entire failure. Much was written and published on the subject, and diligent inquiry made at the time, and the conclusion finally arrived at was that the disease was attributable to the age of the variety, as it was never known to occur in the new sorts, and the only remedy recommended was the entire abandonment of the variety. Truly yours,

"C. N. BEMENT."

It must be observed the disease above spoken of, is not the rust or premature decay which occurred in the whole of our country the last year, and which affected every variety of potato, but is a disease which shows itself as soon as the plant is out of the ground, in the puckered appearance of the leaves.

I will now state my method of planting, not asserting it as the best, but shall be happy to hear of a better. I use only large potatoes for seed. If the va-

riety has many eyes, such as pink eyes, Mercers, &c., I prefer them cut in three pieces, and one piece put in a place at three feet apart, and other kinds cut once and one piece in a hill. I prefer a clover sod, plowed in the fall, thoroughly worked with a drag and cultivator in the spring, and then 20 or 30 loads long manure from the yard spread evenly over the ground; after which, I furrow for my rows at three feet distance from each other; and then drop the seed, and cover it with a plow, by which means the straw and ground become well mixed. If I plant old land, I consider the straw as absolutely necessary, be the land ever so rich. I do most of my hoeing with a cultivator and shovel plow. In digging, I pull my tops with a subsoil plow.

I am glad to see that so many farmers are keeping an account with their different crops. It will enable them to compare the seasons one with another. It will also enable them to see what is, for a series of years, the most profitable crops for them to raise; and I hope there will more of them furnish you with a balance sheet that we may see what has been done, and that will stimulate others to beat it, as I contend no man should be content to merely equal others, but each should strive for the top step in the ladder.

I remain, truly yours, &c.

S. PORTER RHOADES.

Skaneateles, April 13, 1840.

POPULAR ERRORS—No. 2.

MESSRS. EDITORS—On the 81st page of the current volume of the Cultivator, I have noticed a few of the popular, or common errors, and intimated that I might possibly recur to the subject at some other time. The theme is a fruitful one, and might be made to embrace a variety of topics. I propose, however, to touch only those that are brought to bear directly or indirectly on agriculture; and first, *farming in the moon*.

The moon has given rise to abundance of superstitious observances, and from the very earliest ages, has been supposed to exercise a great influence over the earth and men. Many of these superstitions have been exploded, while others still retain no inconsiderable hold on the public mind, and are the pregnant source of error. On no point is this more perceptible, than in that of farming. That the moon can produce any perceptible influence on crops, or deserves the slightest regard in their sowing or planting, is a notion as false in philosophy, as it is contrary to fact. That the waxing or waning of the moon, has any influence on the growth of vegetables or their germination, is a notion belonging to the same ages as astrology and witchcraft; and like these beliefs, should ere this have ceased to exist. The celebrated Arrago, collected from various sources all the well authenticated facts relating to the influence of the moon on agriculture and the weather, and came to the conclusion, "that there was no reason whatever to confirm the common notion that changes of weather attended changes of the moon, or that this luminary has any perceptible effect, or is in the least worthy of notice in conducting the processes of agriculture." Some of the old superstitions or notions on this subject, may, however, be worthy of notice here.

Tusser says, in his "500 points of Husbandry,"—

"Sow peason and beans in the wane of the moon,
Who soweth them sooner, he soweth too soon;
That they with the planet may rise,
And flourish with bearing most plentiful wise."

But though such was the general feeling, there were some enlightened and intelligent enough to perceive the absurdity of such notions, and expose these errors. Thus Werenfels in 1748, in an Essay on Superstition, says:

"The superstitious man will not commit his seed to the earth when the soil, but when the moon requires it. He will not have his hair cut when the moon is in Leo, lest his locks should stare like a lion's mane; or when it is in Aries, lest they should curl like a ram's horn."

I would say to the farmer, don't trouble yourself about the moon. See that your land is in fine tilth, well manured and drained; your seed fresh, and free from foul matters; and when you are ready, sow, without consulting the moon or the almanac. If all is right in other respects, the moon, no matter what may be its position, will not hurt you or your crop; and if your land is but half prepared or tilled, rely on the moon as much as you please, and you have no right to expect a crop.

Another common error, is that relating to the "signs." Somebody among the ancients, for convenience sake, divided the stars into constellations, named from their fancied resemblance to the objects, Leo, Ursus, Aquila, Pisces, Taurus, Sagittarius, &c. &c. In its annual revolution, the sun passes through a dozen of these constellations, or signs of the zodiac; and by degrees, these signs were supposed to exert a magical influence on the several parts of the human body; and we all remember seeing in our old almanacs, the man mounted on the globe, in a state of nudity, that the place and effect of the "signs" could not be mistaken. This popular error influenced mankind wonderfully, and though common sense has in most cases displaced the man, the signs still retain their ascendancy over the conduct of multitudes.

There are many men at the present age, so far behind the times, that if they have a tooth to pull, a vein to open, a pig or a calf to castrate, a patch of thistles to mow, a bunch of white birches or shrub oaks to cut down, or a dose of physic to swallow, the chapter of signs must be consulted, and their connection with the body, or the plant, ascertained before any thing can be done. The full believer in signs, would as soon swal-

low poison as physic, when the sign was in Taurus, as that animal chews the cud; and in that state of the signs, the cathartic would assuredly prove an emetic, or in other words, follow the course of the cud. Weeds or trees must be cut when the sign is in the heart, that the whole may perish together; for if the sign was in Pisces or the feet, we suppose when cut down, only the extremities of the plant could be persuaded to perish; and we be to the unlucky calf or colt, that happened to undergo castration, when the sign indicated the forbidden region; his fate was sealed beyond the possibility of mistake. If you see at the present time, a man's fences buried in briars, his fields overrun with bushes and thistles; half a dozen of uncastrated pigs and colts running about, as if to perpetuate, by in and in breeding, all the defects of their races; and his orchards and woodlands neither trimmed or pruned, that man may be set down as a believer in signs, one who governs his farming by the moon, and who will in all probability, reap such a harvest, and experience such results, as so irrational and unphilosophical a course indicates. M. S. D.

DIFFERENT BREEDS OF SHEEP.

MESSRS. GAYLORD & TUCKER—In the last number of the Cultivator it is requested that some one who has kept different breeds of sheep, will give a comparative value of them. In the first place, I will notice their lambs, supposing them to sell at the same rate per pound.

A Saxon lamb, 6 mos. old, weighing 18 lbs. at 8 cts. \$1 44
Merino lamb, " " 20 " 1 60
Bakewell, " " 30 " 2 40
Cotswold, " " 60 " 4 80
South Down, " " 50 " 4 00

In the second, their wool:

Saxon fleece weighing 3 pounds, at 50 cents, \$1 50
Merino, " 3 " 40 " 1 20
Bakewell, " 5 " 30 " 1 50
Cotswold, " 10 " 36 " 3 60
South Down, " 5 " 40 " 2 00

The above I think will show the difference in value of the lambs and fleeces; but no one is to suppose that eight cents per pound is the value of the Cotswold or South Down lambs. They are now worth about \$20 to \$25 each; I would not sell at a less price.

In the third place, the sheep, when full grown:

Saxon sheep, weighing 50 pounds, at 6 cts, \$3 00
Merino, " 60 " 3 60
Bakewell, " 110 " 6 60
South Down, " 120 " 7 20
Cotswold, " 240 " 14 40

The Bakewell, I consider a sheep not at all adapted for this climate, being of a tender constitution, hard to keep, wool coarse, small fleece; another objection is, when the wool is a few inches long, it parts and leaves the back of the sheep naked, and when exposed to cold storms, the animal is much injured, and many of them die. The Saxon and Merino, I find much alike; both of a weak constitution, and require great attention to keep them alive through the winter; they are also very bad nurses—a great difficulty in rearing their lambs. I have conversed with many gentlemen who keep large flocks of Merino and Saxon sheep, and they all agree what I have stated respecting them, to be correct, but they say we must have fine wool. If such sheep must be kept for their wool, let it be in states where land is of little value, but not in a state like New York, where the carcass of a large breed of sheep can be sold from \$10 to \$20. For my own part, I will never keep a Merino or Saxon in this state, and I should think no man would keep an animal, where he could keep another which would bring him three times as much for the same trouble and expense, but it is a hard matter to convince people of the benefit they derive from having good stock; and those that are, say it costs us so much to get those things, that we are fearful we shall never see our money again; of course they must not expect to see it the next day. If they would only give it a trial for two years, they will receive good interest for their investment, and I am much pleased to see that some spirited individuals are making considerable progress in the improvement of stock, as many valuable shipments have been made into this country this last year. For the last five years I have imported more than 500 head of cattle, sheep, and pigs. With those and other shipments, I am confident we are on the improving side. I again leave, in a few days, for Europe, to select some of the choicest of their animals for this country, and having traveled through both, I am confident that no country can go ahead of us, if we start right.

I must say that the South Down and Cotswold sheep have exceeded my expectation. I have seen some of the South Down wool manufactured into cloth, fine enough for any man; and if people get the pure blooded South Down sheep, they have an animal in every respect that is wanted; their mutton superior to any in the world; of a hardy constitution, the wool good, and no sheep will live on shorter pasture. The South Down has a brown face and legs or dark grey. One thing I should caution people, not to buy before seeing the importer's certificate, that the sheep are imported and pure in blood, or from pure blooded imported sheep. I have not sold to any one that has taken two or more without giving one, and I have no doubt but other importers have done the same; if they have not, they should do so, as it would check many impositions of cross bloods, being sold for pure.

I consider the Cotswold sheep a hardy animal, well adapted for this country; but they want better keep than the South Down; they make great weights and their fleeces are heavy. I had last year 18 Cotswold ewes, whose fleeces averaged 10 1/2 lbs., and one buck whose fleece

weighed 18½ lbs. I sold a lamb to Mr. Haviland of Long Island, who had it shorn at one year old; the fleece weighed 12½ lbs. clean wool. I saw some of this breed of sheep slaughtered in Gloucester, England, which weighed 75 pounds per quarter; a noted breeder there informed me that they often exceeded that weight.

Some may say that the South Down and Cotswold lambs cannot weigh 60 pounds at the age stated. If any doubt it, if they will call on Baggs & Wait, of Montgomery, N. Y., they can see lambs of five months old much heavier.

Yours, respectfully,
Montgomery, July 21, 1840.

JAMES BAGGS.

GENTS.—I wrote to you a few days ago respecting different breeds of sheep which I have kept; since that time I have weighed some of my South Down, also some of my Cotswold lambs. I find their gross weight to be from 94 to 98 pounds; those lambs are not five months old. I think this is enough to convince any one of the advantage of keeping good breeds of sheep. I have also weighed some of the largest Merino flock, and I cannot find one that would weigh one-half of the above weight.

Yours, respectfully,
Montgomery, Orange Co., N. Y. July 27, 1840.

JAMES BAGGS.

LATE SOWN WHEAT.

MESSRS. EDITORS.—In answer to the call for information concerning late sown wheat, (current vol. page 106) I would say, I sowed a piece the last day of December and first day of January, 1838, and had a good crop—better than the average I have generally obtained from fallow ground. The land, which is dry, and formerly covered with oak and chestnut timber, had been well manured, the sward broken and planted to corn the spring previous. After taking off the corn, the plowing was begun, but before it was finished, winter set in. At the time above mentioned, there was a dry warm spell of weather, and the plowing was finished, and the wheat sown and covered. When harvested, it was stored with other wheat, and no account kept of the quantity.

I think it will not do for farmers in a good wheat growing country to depend on opportunities for this kind of late sowing, lest they fail of being able to sow at all; but where spring wheat only is now raised, the land might be put in preparation for sowing the fall beforehand, and then if an opportunity should offer for late sowing of winter wheat, it might be improved; if not, no labor or advantage would be lost, as the ground would be in readiness for the spring crop at the first opening of the season.

Olisco, August 7th, 1840.

L. D.

REMARK.—We may add in reference to this subject of sowing winter wheat late, that last year we let a field to a neighbor, on which, with other crops, he grew an acre of ruta baga. When the other crops came off, the ground was plowed and sown with winter wheat, not early, but in good season. A pressure of work prevented his removing the turneps as long as it was safe for them to stand, and it was not until the 13th of November, that this acre was sown. Rain prevented more than a partial harrowing, snow followed, and in that condition it was left for the winter. The wheat has been cut within a few days, and though not a heavy crop on any part of the field, the acre of late sown is at least equal to any of it. On the whole, we are inclined to the belief that late sown winter wheat may succeed in those districts where autumn sown wheat is liable to freeze out. The subject is an important one to many farmers of this state and others, and we should be pleased to have communicated to us the results of experiments having a bearing on the policy or impolicy of this method of sowing wheat.

AGRICULTURAL COLLEGE.

MESSRS. EDS.—I have read much in your valuable paper concerning an agricultural college in this state. I hail the day when that happy period shall arrive. We want such an institution in our land, and I have no doubt that thousands would embrace the opportunity, by sending their sons, provided such an institution were in operation by an intellectual and scientific agricultural society. As our country is advancing in almost every other art, so the art of farming, which is of the most importance, and which has heretofore been the most neglected, is destined ere long to become an art above all others.

Observation has taught us that men, sons of farmers, well educated, and possessing fine talents, are frequently inclined to think their father's occupation degrading, and have therefore entered into other business, expecting to make money faster, and be more respectable in society; but after flourishing awhile, have been reduced to want and ruin, regretting the time they left following the plow, to seek a fortune in a city where business was already overdone; but too late perhaps are regrets—land is gone, money is spent, and no redress; their only alternative seems to be, to linger out the remainder of their days in poverty and misgivings for past folly.

These hints are given to encourage an agricultural school, which would very much raise the farming community from the degraded state in which they have heretofore been considered by some of the professions. I would not wish to discourage other professions; far from it; it is necessary to have young men study divinity, law, medicine, and the different branches of trade, and practice them accordingly; and as agriculture flourishes, so in proportion do they all flourish. But I do say, that if many young men had been educated in an

agricultural school, they would thereby have preserved their moral habits, and made first rate citizens, who now have turned out worse than useless.

Again, a man having knowledge, is prepared to act with more discretion than one who is ignorant, be he a farmer or professional man. An ignorant farmer may get along, but his mind is by no means so much enlightened; and if his desire be money making, he takes great care to watch his more intelligent neighbor, and follows him in his improvements, notwithstanding the lurking prejudice against book farming. One remark further—give people education, teach them good morals, and they will make better citizens, better rulers, and of course a better government may be expected. A. B.

New-Utrecht, L. I. June, 1840.



FREAK OF NATURE.—[Fig. 82.]

MESSRS. EDITORS.—Enclosed I send you a pencil sketch of a pig. He is about three months old—in perfect health—weighing about 100 pounds—he is all white—in shape and beauty he is equal to any Berkshire pig in the country. The body and legs of the additional pig (with the exception of the head and a part of the back) are on the chest and breast of the main pig; the four extra legs, from their situation, hang useless, but are about the size of the other legs. Perhaps not the least curiosity is, that the main pig is a boar with two penises and four testicles, the one penis and testicles in their natural place, the other penis and testicles are near the chest, the penis pointing backwards towards the other about one inch apart; water is discharged from both, but the largest discharge is from the natural one; and in the appending pig there is plainly, and in the natural situation, a distinct female organ of generation.

Should the above appear to your mind, as it does to mine, as one of the most extraordinary of nature's freaks, and worthy your attention, the same is at your disposal for insertion in your highly valuable paper.

Very respectfully, yours,
JOHN C. DEWEY.
Leeds, Greene Co., N. Y., August 6, 1840.

The Peach Tree Grub destroyed by Brine.

MESSRS. GAYLORD & TUCKER.—I have been looking over the back volumes of the Cultivator, to see what receipts I could find for killing the wire worms and grubs that infest peach trees. For the last seven or eight years we have not been able to raise peaches at all. When the trees would get to be two or three years old, they would die; every effort to cure them of the grubs having proved unsuccessful. Last spring, (a year ago,) I found that all our peach trees were going, as they had done before—the leaves began to curl up, and upon examination I found them full of wire worms and grubs just below the surface of the ground. I cleared away the dirt two or three inches around the body of the trees, and applied to each tree about a pint of good brine or pickle from a pork barrel, and in a moment I could see the wire worms (as I call them,) coming out of the ground "post haste," as though something "was up" with them. They would curl up and die on the top of the ground by dozens. From that time the trees have flourished wonderfully, by applying the brine twice during the summer afterward. This spring I applied it again to the same trees, and also to some other trees we had; and every one to which it has been applied, is doing well, and most of them have peaches now on them.

I have no doubt that the application of brine to other fruit trees, would prove beneficial, and I intend to try it this summer on some. JOSEPH H. JACKSON.
Rockaway, N. J. July 20, 1840.

INFORMATION WANTED ON DRAINING.

MESSRS. EDITORS.—Though farming has been, for the most part of my life, my constant employment, (and I have just passed my fiftieth year,) yet I have now undertaken a branch of it which is new to me, and about which I desire the best information I can obtain. I have been a subscriber and attentive reader of the Cultivator, commencing with the third volume; and shall now, for the first time, claim your indulgence, by requesting you, or any of your numerous correspondents, who have made any experiments in reclaiming swamps, to publish the results, whether profitable or not. Most men are ready and willing to publish to the world, the result of their experiments which prove successful and profitable; but few men have the humility to publish those which are unsuccessful, lest their imperfections or ignorance, (of which none are wholly exempt,) become more apparent; but as I believe in my case, more benefit would accrue to me from the latter, than the former, I will set the example, though on another subject; and if, by exposing my ignorance, others should become enlightened, I shall be amply rewarded for the sacrifice. Last spring I bought half a barrel of Rohan potatoes, and as one means of obtaining sixty pounds for one, as many had done, I put about one gill of good house ashes on the potatoes in each hill, after dressing, a thing which

I had often done on common potatoes, with good effect; but my Rohans were cut in such small pieces, that the lye struck clear through them, and there did not one in twenty come up, and those which did, from that cause, or some other, looked rather feeble.

Now, if any one experimenting on swamps, muck, or muck ashes, has got any bought wit, (which is said to be the best, if not bought too dear,) if he will give it to the public, together with such as has netted him ten fold, I shall consider him a public benefactor. The swamp in which I have undertaken, contains about one hundred acres; about eleven of which, I have bought to experiment upon. The streams flowing in, are mostly small, receiving the waters for about one mile distant, on the north, west, and south; rather high hills north and west, gradually sloping from the south, and descending to the east. The hills mostly hard wood land. Muck in general, deep enough, and at a boiling spring only eighteen rods from the shore, it is eighteen feet deep. About thirty years ago, seventy acres of it was cleared, having had from the present appearance, quite a growth of timber, and much expense in ditching, but to no purpose, as the present appearance of the swamp indicates, being three-fourths of it grown over with bushes, and are gaining every year.

I have agreed to open a wide ditch at the outlet, so as to be four feet below the surface in the meadow, which is nearly level, and I think, was once a pond. Queries.—Is 4 feet in that case, deep enough? Can one part of the swamp be drained to any effect, by ditching round it, while the water stands on the surface in another, as we can neither drain or ditch to the bottom of the muck, which is forty feet deep, for aught I know? After draining and turning, how much sand or gravel should be put on an acre, so that with the help of turf ashes, potatoes or grass will grow luxuriantly?

Could not turf and muck be burned in something like a lime kiln, with a grate at the bottom, and would not the heat expel the acid, and more and better ashes be obtained, than if burned in pits on the ground?

Has no machine been invented, better than a bogging hoe, to cut swamp turf? I shall try to make one, and should like to know what has been done for that purpose.

Yours, &c.
Z. GOODSELL.
Orange, Franklin Co., Mass., August 10th, 1840.

PRESERVATION OF PEACHES.

MESSRS. GAYLORD & TUCKER.—When a boy, I received a hint which I have never had an opportunity to practice upon, but which I have no doubt, will be of great practical utility to the lovers of the delicious peach. My brother, N. Dille, Esq. of Euclid, near Cleveland, in this state, had a clingstone peach tree growing in a large hollow tree in the center of a field, which for several successive years, he cultivated in corn. The soil was rich, though a very loose and friable sand, and the field inclined to the north, at a general angle of some four or five degrees, so that in times of heavy rains, the sand was washed down in quantities, while the ground was in cultivation, and arrested when it reached any obstacle. The fruit of this tree, ripened about the last of September, and I remember well, was sound, sweet, and luscious. As peaches were very plenty that year, a large portion of its fruit was permitted to fall off, and lie upon the ground, which was soon after completely covered by the sand, brought down by the heavy rains which succeeded. Yet, from my best recollection, I do not think it was any where covered more than 12 and generally about 6 inches in depth. It lay under this covering all winter, and the next spring, when the frost came out, and the rains returned to cut sluices in the friable soil, it disclosed many of the peaches in a perfect state of preservation; and so well were they preserved, that they lost but little of their rich and delicious quality. I have never heard of any attempt to preserve peaches in sand, and living in a country not very favorable to the production of the peach, I have not been able to try the experiment. But I believe from this fact, that the clingstone peach may be preserved by packing them in moist sand, so that they will not touch each other, and pressing the sand hard upon them, so as to exclude the air for a long time. I send you this fact, that if you think it worthy a place in the Cultivator, others may practice upon this suggestion, and should they succeed, I shall be amply paid for this little trouble.

I design when leisure affords opportunity, to give you my views at large, on the culture of the strawberry. By my practice, I believe I very much increase the quantity of fruit produced, as well as the duration of the bed or plantation. I have a bed now eight years, which this year produced its usual quantity. Yours truly,
Newark, O. July 20, 1840.

J. DILLE.

A SHORT HORN HEIFER.

MESSRS. EDITORS.—I send you the following description of a Durham Short Horned heifer, bred and owned by me, three years old last spring, and expected to calve in August.
Girth back of shoulders,..... 6 feet 5 inches.
Width across the hips,..... 2 "
Length from nose to root of tail, 8 " 10 "
Weight,..... 1360 lbs.

Her keeping has been hay in winter, and grass in summer, with the addition of a few roots the second winter. She is a small boned, compact animal; thin hide, soft hair, and is descended from a very extraordinary family of milkers; her dam having given nearly fifty lbs. of milk per day, and made 14 lbs. of butter per week, in the month of January, without much feed but hay.

SAMUEL W. BARTLETT.
East Windsor, (Seantic), Conn. July 24, 1840.

ON SHELTER FOR CATTLE AND SHEEP.

Messrs. GAYLORD & TUCKER—In the June number of the Cultivator, I find a communication from James M. Garnett, of Va. in which he propounded some questions. In reference to the one, "which is best, to shelter or not to shelter sheep and cattle from snows and cold rains?"—I would say, that about the year 1817, I commenced the winter in Onondaga county, N. Y., with a small flock of sheep, mostly of the native breed, and no other shelter than what nature provided. The country was then comparatively new, and the improvement, (if improvement it could be called) on the farm on which I had then but recently settled, was small, and made by girdling the large, and clearing out the small timber and bushes. In this situation my sheep increased and did well. I was rather inclined to the "let alone system" of which your correspondent speaks, and went on without providing shelters. I bought, sold, raised and soon began to lose some, till in about nine years, I had something over 150 in my flock, mostly a mixture of the native and merino breeds.

During this time the country had undergone an essential change; the improvements had much extended, and the girdled timber had nearly disappeared. The bleak winds of winter, frequently laden with snow, came heavily upon us, and in the winter of 1826—27, which was distinguished for the long time snow lay upon the ground, my flock was reduced more than one-third, that is to less than 100. I was not sensible that I did not take as good care and feed as well as formerly, when more successful, but all to no purpose, the sheep would die for all that. I consoled myself that it was a season of uncommon mortality among sheep every where, as many of my neighbors lost near or quite the same proportion of their flocks that I did; and from Vermont to Ohio, there were accounts of the same fatality attending the flocks of the woolgrowers. So I still continued on without shelters for sheep, and my loss continued to be large in proportion to the number that I kept, till at length driven—yes, absolutely driven from my prejudices, I began to try shelters, and having followed that plan for several years, I am now persuaded, that with good shelters and good suitable food and attention, there is not much if any more danger of loss in wintering than in summering sheep; at least my experience shows such is the result.

Cattle and sheep will frequently leave good hay, if placed in exposed situations, in hard storms, for their shelters. If they choose their shelters rather than remain out long enough to fill themselves with good food, is it not unmerciful and bad policy, to compel them to remain constantly exposed to the severity of such weather. I am aware there is a difference between the climate here, and in Virginia, and do not know that shelters are as imperatively necessary there as here, but still think they must be decidedly beneficial. Here, sheep and cattle appear to suffer as much from the storms of sleet and rain in the spring, when the season is not colder than the winters in Virginia, as they do in the cold snow storms of our winters.

Having tried several kinds of shelters, I will here give an opinion of the kinds that are to be preferred. Good sheds attached to barns are probably the best, or on siding and dry situations, good shelters may be made under barns, which I think a very economical method of building. Supporting roofs, make a large item in the expenditures necessary for farm buildings, and where shelters are formed under other buildings, this expense is saved. Permanent shelters made in this way, should not be less than about seven or eight feet high. If made low, it occasions great inconvenience when getting away manure; also when taking care of cattle, and especially sheep and lambs in the spring season, when much attention is necessary, and when the greatest amount of manure in the year will have accumulated. Beside the convenience, I think the health of animals, particularly sheep, is better promoted by a high rather than a very low shelter, where the air must be more confined, and consequently less pure. But there are many others besides myself, who are not able immediately to have all the good and permanent shelters that are necessary; I will therefore describe a temporary kind which I have found very convenient for sheep.

Two sills only of light and durable timber, about eight inches thick before being worked, are used, and these serve for runners also. They should be about 15 feet long, the lower side left round, the upper side straightened by hewing, and trimmed down the other way to about five inches thick. The ends should be hewed off on the under side, so as to turn up something like runners. Thus prepared they may be placed about ten feet apart, from outside to outside of the timber. Four posts, or one for each corner of the building should be set about eighteen inches from the end of the sills, which will make the building about ten by twelve feet square. One girt for each end only should be used, of smart timber, and large enough to hold to draw the building by; and be framed into the posts about six inches above the upper side of the sill. This elevation is necessary in order that the building may be moved over uneven ground, or through snow; and the boards or siding should not run below the girts. The posts for the front, or open part, should be about four feet long between tenons, or from the upper side of the sill to the plate, and from the backside two feet. Three sides of the frame should be covered with thin, light boards, and the highest side left open. A loose board may be fitted down at each end to close the space below the girt, and removed whenever it is desirable to remove the build-

ing. Sheds of the above description may be moved easily by one pair of oxen or horses. Larger ones I have found to be heavy and uncomfortable to move, I think it better to enlarge the number than the size. But neither good shelters, or good shelter and good food alone will make healthy fat animals, without regular feeding. The breeder of animals, whether cattle or sheep, will find that the attention necessary to ensure success, will always be amply repaid by the fine condition and rapid improvement of his flocks and herds.

Otisco, 1840.

LEVI DEMING.

URATE AND POUDETTE.

Messrs. EDITORS—An establishment for the manufacture of the manure called urate and poudrette, has been erected at a considerable expense in the state of New Jersey, near the city of New-York, and an act of incorporation has been granted by the legislature of the state of New-Jersey, by the name of "The Lodi Manufacturing Company," for purposes of agriculture, wherein it is provided that 500 shares, a portion of the stock reserved for subscription by farmers and gardeners, within a limited time, shall be entitled to receive 50 bushels of poudrette yearly for 5 years, viz. in 1840, 1841, 1842, 1843, and 1844, upon each share of \$100, which is at the rate of 20 per cent per annum for those years, and after that period to receive an equal dividend with the other stockholders.

The manufactory has gone into operation according to law, a sufficient number of shares having been subscribed for that purpose and capital paid in, and the first dividend has been regularly paid to the subscribers; the next dividend is payable in September. But the company needs a larger moneyed capital than it now has to carry it on to better advantage. Inquiries having been made whether all the stock had been taken; and the difficulty at the present time of obtaining funds, to a sufficient amount, from a few individuals, has induced a renewal of this notice to farmers and gardeners, and every other person who may have spare funds, (as every person is now permitted to subscribe,) that there is yet a considerable portion of the reserved stock, which by law is to receive 20 per cent per annum payable in poudrette; one half in May, and the other half in September, in the years 1840, 1841, 1842, 1843, and 1844, not yet subscribed for, and the books are now open to receive subscriptions for the same, by any person, whether gardener, farmer or otherwise, at the office of the Lodi Manufacturing Company, No. 73, Cedar street, in the city of New-York. Terms for the reserved stock, \$100 per share in cash; and for the other portion of the stock an instalment of \$25 per share on subscribing, and the residue, (being \$75 per share,) to be called in by instalments of \$5 per share after 30 day's notice.

These manures have been fairly tested and very generally approved of, as being the cheapest and best manures, and more economically applied than any other known substance used for manure.

As the article can be furnished from the city of New-York only to a limited extent, (not more than sufficient to manure 35,000 acres annually,) it must follow that in a few years it will necessarily be confined to the use of the stockholders alone.

It is important to agriculture, and the enterprise deserves the liberal support of every enlightened farmer.

By order.

WM. M. WILLSON, Sec'y.

At an election for directors of the Lodi Manufacturing Company, held at Jersey City on the 6th day of July, 1840, the following persons were elected directors of the company, to hold their offices until the first Monday in October next, namely, Anthony Dey and Jacob C. Dey, of New-York, J. D. Miller, Andrew S. Garr, and Rodman M. Price of New-Jersey.

INQUIRY.

Messrs. EDITORS—I have a large body of flat land, lying on a water course, which is subject to be inundated in case of high water, and which I propose securing by dykes or embankments. The construction of the embankments with a view to getting rid of the running water is plain enough; the difficulty is in repelling the back water, and also securing the means of escape to the surface water, and that rising on the flat within the dikes. I could cover up or blind (as it is here termed) the small ditches, and pass them under the embankment, but in that case there would be no vent or issue for the water furrows, which are necessary to discharge the surface water. The object of this communication is to ascertain from you or some of your readers and correspondents, the best mode of constructing a trunk, gate, or valve, calculated to discharge the water that stands or rises on the land, and in case of high water to repel the back water. In the tide water section of Virginia, trunks are very common on reclaimed marshes, and are constructed to raise and sink with the tide, which ebbs and flows at regular intervals. I fear, however, that trunks constructed on that principle would not answer the desired purpose on streams that are swollen only by extraordinary rains at long and irregular intervals, as they would be prevented from rising and subsiding with the water, by the sand, loam, &c., which would accumulate in the ditches, and be lodged upon them. The construction of these dikes will be attended with considerable expense, (not commensurate, however, with the increased value of the land in case it can be made secure from overflow). Before incurring this expense I wish to be satisfied of the feasibility of

the scheme, which is my apology for troubling you with this inquiry, the answer to which will be thankfully received by one of your readers and subscribers.

LEWIS E. HARVIE.

Elk Hill, Amelia county, Va., July 9, 1840.

FLORIDA KEYS.

Messrs. EDITORS—I have lately observed, in the periodicals of the north, several articles from the pen of Dr. PERRINE, upon the character of the Florida Keys; and I have seen in them, with regret, much that must tend greatly to mislead the public mind. Now, as I am a resident of one of these keys, and as several of the articles alluded to, have appeared in your widely circulated paper, I desire, through the same medium, to present your readers with a more accurate view of the true character of this peculiar region. I would premise, however, that Dr. Perrine is deserving the thanks of the public for his energy and perseverance in attempting to introduce and acclimate in South Florida, such exotic fruits and plants as may be beneficial to the country. And I am well satisfied, that though he may be vexed and disappointed at his own slow progress, and the apathy with which the world may look upon his labors, his exertions will eventually be truly beneficial to his country, and particularly to the barren and desolate regions which he so much desires to improve.

The Doctor dwells unceasingly upon the "wonderful productiveness of the exclusively calcareous soil" of the Florida Keys, and would make the public believe that they are in reality rich and readily productive of profitable crops. But to the stranger, a little explanation is necessary to enable him correctly to appreciate the nature of this exclusively calcareous soil. The foundation of all these keys is solid but soft limestone, which, in some places, appears naked, without any soil, and here and there, in cavities of a few feet or rods in diameter, called pot holes, may be three or four feet beneath the incumbent vegetable mold. But generally it lies but a few inches below the surface of the ground. Upon this solid rock lie loose limestones of all sizes, which generally are as closely packed as if they had been emptied there from a cart; and the soil is nothing but the vegetable mold that has settled among these loose stones. Consequently it can neither be plowed nor hoed; and if the stone be removed, the sun will dry up the soil and it will soon disappear.

Along the shores, the sea has in many places thrown up ridges of calcareous sand, to the depth of several feet, upon which cocoa nut trees thrive very well, but nothing else. So also, where the rock foundation lies below the surface of high water, there lies a deposit of salt calcareous soil, upon which nothing grows but mangrove bushes and coarse stunted grass.

Poor, however, as is the soil of these islands, something might be done with it if there were sufficient rains. But there are not. I have known six continuous months to pass without sufficient rain to wet the surface of a board. Nevertheless, as the Doctor says, these keys are covered with a dense growth of native vegetation; but as might be expected, it is stunted, dwarfish and of little value.

In the spring of 1839, the Doctor glowingly urged the immediate cultivation of the Chinese mulberry upon these islands, and set forth the large profits that thus might be realized; and he succeeded in inducing one gentleman of Key West to try the experiment. He selected the best spot, in his opinion, upon the island—cleared it off—dug a well, that he might water it in time of drouth—and planted out several thousand cuttings of the Chinese mulberry, taken from trees that he had reared in his garden. Some ten or fifteen of these grew to the height of a foot or less, and finally, towards the end of the summer, died; and thus ended the experiment.

The red mulberry has been transplanted from Cape Florida, where it is indigenous, to Key West. To these the Doctor refers, and says, that they are flourishing and green throughout the year. I have lived there, and noticed them for five years past, and well know that they are bare of foliage every winter for several weeks, and are never flourishing, except during a short time when rains are frequent.

The intimation, that tropical fruits thrive on these keys, is a deception. Cocoa nuts and limes do well—tamarinds, so so—papaws, passably, with good care and cultivation—bananas and plantain are abandoned at Key West. But indifferent fruit of the kind may be raised, with good nursing, upon artificial ground. Capt. Housman, of Indian Key, has succeeded better with these fruits, than any other person on the whole coast. But he is wealthy, and has devoted to their cultivation several thousand dollars. There are a few bearing lemon trees on these islands—one only at Key West. None have yet succeeded in raising oranges, though hope has not quite left us. But pine apples, mama apples, alligator pears, mangoes and other unmentioned tropical fruits, are believed to have a desperate chance, for our citizens are constantly trying them without success. It is true, that Dr. Perrine may have young seedlings of all the fruits you enumerate, but he will find great difficulty, I apprehend, in bringing them to maturity. It is to be hoped that he will continue his efforts, as some in Key West are now doing and intend to do.

The colony of the Florida Tropical Plant Company, which, in your May No. you say was established by Dr. Perrine, in the southern part of Florida, and broken up by the Indians, was like the Dutchman's barn—

L. W. SMITH.

Can you give any information respecting a tribe (by far too numerous,) of insects, vulgarly called rose bugs. It has not yet been my fortune to meet with any information, touching their organization or habits; they are

J. N. KEELER.

MESSRS. GAYLORD & TUCKER.—I was absent from home two weeks in June, and on my return, found one litter of my chickens had the gapes. While absent I saw a friend giving chickens *assafœtida* for the gapes, which he assured me, he had used successfully for two seasons. On examining, I found the diseased chickens all had more or less lice upon them. By applying lard as before recommended, and giving a quantity of *assafœtida*, pounded fine and mixed with Indian meal—pursuing my usual course of treatment with chickens in feeding &c.—I had the satisfaction of soon seeing all of the litter entirely free from gapes, except one, which was nearly dead on my return, and which died soon after; that, on examination I found had a red worm, much resembling the common earth worm, nearly an inch in length in the wind pipe, and perhaps more, had I examined deeper.

J. R. S.

R. C.

G. W.

Brooklyn, N. Y. August 12, 1840.

POTATOES FROM THE SEED.

Messrs. GAYLORD & TUCKER—One of your subscribers has made inquiry, as to the mode of raising potatoes from seed, for the purpose of procuring varieties: will you accept the following as a reply?

The sowing of seed requires in the first place some little attention: being contained in a capsule of pulpy matter, it is necessary that it should be separated therefrom, by washing and drying, in the same way with cucumbers, melons, and some few other seeds, similarly produced; and then to be kept free from moisture till the following spring, or until when wanted, as thus saved it will keep good many years.

In order to its cultivation, in the month of April prepare a bed, in a portion of the garden that has been manured the previous year, in the usual course of cropping, and the soil being well pulverised, open drills, about a foot apart, into which drop the seed thinly; cover with the rake, and beat down gently with the back of the spade, so as to close the particles of earth, and afford little access to the small black skipping bug, so injurious to the seed leaves of turneps and cabbage, which are equally pernicious to this crop, and require to be restrained from their depredations, by the best means in the grower's knowledge. When the plants have attained about half a dozen leaves, hoe, weed and thin them out, to three or four inches distance: the super-numeraries, taken up with a ball of earth to their roots, may be transplanted safely into a separate bed, and give the cultivator a fairer chance of the improved variety, and do away with the idea that may otherwise intrude on the imagination, that the better kind may have been lost in thinning.

Following the nature of the potato, the vine will now grow rapidly, and in a fortnight will require a second weeding, to be followed with what in farmer's language is called, earthing up; and it then remains only to watch the period of the decay or ripening of each plant, as some will reach their maturity early, and others will continue growing till the arrival of the autumnal frosts. It may be satisfactory and useful to notice these periods, and contrast them with their times of ripening the successive year, and thus identify them, as an early or late sort. They will now have to be carefully harvested, each root having its produce kept separate, and placed out of the reach of the winter's frost, for the next year's culture; for this purpose, it will be advisable to employ a flour barrel of dry chaff, into which the potatoes are to be packed, each sort previously wrapped in paper and thus secured from mixture with another. In the ensuing spring they must be again submitted to the earth. The growth of this year involves no little care and trouble. Separate the early from the late, and dwarfs from those of more luxurious growth, and prepare the ground as before. If you plant in hills, those with the longest haulm will require a distance of three feet; if on the contrary you drop them in furrows, the same distance will be needed from furrow to furrow, lessening the space as the plants decrease in the length of the vine to two feet. It may be as well also before planting, to take off a small piece of the peel to ascertain the color, the prejudice being in favor of a white potato over a yellow, and a yellow over a black, for there are all manner of varieties of hues, both externally and internally, and it would be useless to grow those which are quite black. Four or five tubers, where there are as many, will be sufficient for this year's cultivation, and as years are consumed in this undertaking, it will be necessary to commence an early system of experiment: for this purpose, of each sort plant one tuber whole, next a half, then two eyes, and lastly one eye (rohan fashion,) the distance between the planting when in drills from 6 to 8 inches, and if means are within reach, it would be proper to try as far as may be the effects of different soils on each potato, as the light, the heavy and the medium. No further directions are necessary for this year's culture; they are treated as potatoes, and will at harvest have attained their full growth and may be introduced into the kitchen: for although popular opinion gives three years for a potato to acquire its proper qualities, the foundation of which is perhaps more in the mystery of numbers than in real truth, yet as it will have reached its natural size, I can see no reason why it should require another year to develop its other properties. Should the experimenter resolve to put faith in popular sayings, it will be necessary, in harvesting, once more to separate the sorts and repeat the experiments he has just gone through, and any others that may occur to him.

The chief points of goodness or value in a potato, are a white color, a good size, smooth skin, with eyes or shoots gently depressed; there is a preference also for a kidney shape; the tubers should grow close to the stem, be numerous and keep well, and the haulm or vine be short; and finally, above all, the potato must cook mealy: a combination of these points, would be the perfection of the root. To attain such a consummation, has been the continuous effort of the last nine years of the writer's life; that he has not accomplished his object, has been the result of a concurrence of unfavorable circumstances, an over fastidiousness to attain the most of the favorable points, and a soil unfavorable to the culture of the potato, stiff, cold, and clayey. Roots, that have promised well in the light soil of garden culture, have failed, when cultivated in the field; hundreds of sorts have been rejected on the score of color, the white only having been selected; length of stalk has condemned many, and perverseness, or incongruity of shape, with rude shoulders, &c. &c. many

more; and I confess that the celebrated Rohan would have incontinently been condemned to the hog pen, had it been first raised by the humble individual who now addresses you. I have not recommended manure for the seed beds, as I have found an over rich soil raise anticipations, which were not realized in culture on a large scale. Much care is requisite to the safe keeping of the roots through the winter: the only sort I continue to grow, I had nearly lost some years back, by an early frost in November, which continued with so much unexpected severity, that I lost fifteen bushels, as I thought my whole stock; but fortunately one potato remained in the ground, and was preserved by the accidental dropping of a portion of salt hay on the spot where it lay. I was obliged to commence operations afresh, after having just raised sufficient seed to warrant the expectation of a full crop the succeeding year, for the market. I mention this to impress on the grower, a due care. It remains to be observed, that the experiment is quite a lottery. Five and twenty years since, I was fortunate the first trial; the last nine years I have industriously persevered, and from a thousand plants, have only saved one as deserving of culture, and that far from my ideas of a perfect plant. The fault lies in my seeking for too much, and looking for too many good qualities in the object of my experiment; many valuable potatoes I have thrown away in search of that, which perhaps is not to be found. With more moderate expectations, I might have been more successful, and perhaps on a lighter soil, might have obtained my object; my want of success must not deter your inquirer from making the attempt. I still continue on a small scale. I have been led to prosecute a variety of experiments, which, if they have not afforded profit, have supplied me with a fund of amusement, and probably some little increase of knowledge.

THE SCHOOLMASTER ABROAD.

Making Auger Holes with a Gimlet.

"My boy what are you doing there with that gimlet?" said I the other morning to a flaxen haired urchin, who was laboring away with all his might at a piece of board before him. "Trying to make an auger hole!" was his reply, without raising his eyes or suspending his operations.

"Precisely the business of at least two thirds of the world, in this blessed year of our Lord 1840, is this making auger holes with a gimlet," I said to myself, as I walked musingly onward.

Here is young A. who has just escaped from the clerk's desk behind the counter. He sports his mustaches; wears his hair long; has acquired the power of being shaved; carries a rattan; drinks champagne when he can command an X to purchase a bottle, and treat a friend to a dinner; talks large of the price current, fall of western stocks, and profits of banking; stands in his boots two inches taller than Astor or Appleton; and speaks of foreign exchanges as would Rothschild or Biddle. He thinks he is a great man, when all others know he is only making auger holes with a gimlet.

Mr. B. is a rabid politician. He has labored hard at caucuses, at ward and town meetings, has talked of the dear people till the words flow parrot like from his lips, and has done a full share of the dirty work of party for years. Office has been the lure held out to lead him onwards, and which has made him neglect his business, spend his time in hunting up recruits, drilling the refractory, and qualifying himself for bar-room argument and stump oratory. He can settle the affairs of the nation in a trice; diplomacy has no intricacies for him; he has shaken hands with the president, and is a great man. He will soon be used up, and cast aside; and will then see, as others now do, that he is chasing a jack o'lantern, that he is making auger holes with a gimlet.

There is Miss C. who is really a pretty girl, and who might become a woman a man of sense would be proud of. Now, she apes the *ton* in all things; reads exciting novels, goes to the opera, admires Celeste's dancing, has nearly ceased to blush at the most indecent nudity, lounges on sofas, glories in her idleness, keeps her bed till noon, coquets with male animals as feminine as herself, imagines she is a belle, forgets that her father was a cooper, lapses of high life, and plebeian presumption, and is in a fair way to ruin herself. All this comes of her belief that an auger hole can be made by a gimlet.

Mr. D., whom I have just passed, may be put down as a distinguished professor of the gimlet. He was a farmer. His father left him a fine farm free of incumbrance; but speculation became rife, fortunes were made in a twinkling, and D. fancied "one thing could be done as well as another." So he sold his farm, and bought wild lands in the prairies, and corner lots in lithographed cities; and began to dream of wealth worthy of "golden Ind." Work he could not; it had suddenly become degrading. Who could think of tilling or being contented with a hundred acres of land, when thousands of acres in the broad west were waiting for occupants or owners. D. was not the man to do it, and he operated to the extent of his means. At last the land bubble broke; lithographed cities were discovered to be mere bogs; and prairie farms, though the basis of exhaustless wealth, worthless unless rendered productive by labor. But D's. beautiful farm is gone, and as he is now preparing on compulsion to become a pioneer in the west, he feels that it is difficult making auger holes with a gimlet.

Mr. E. is the representative of quite a class. He had his attention awakened to the subject of religion, and

obtained new views of its importance and his own obligations. Believing what cannot be disputed, that love to God and good will to man, is the only true source of happiness, and feeling, as every benevolent mind must, a desire for the welfare of his race, he fancied himself called to declare these truths to the world; and forsaking his lapstone, his anvil, or his plow, became without delay an expounder of the scriptures, a self-delegated instructor of mankind. He forgot that the age of miracles had ceased; and that the ability to teach must now be acquired by the slow but necessary process of human learning. He begins to have misgivings that he has mistaken his call; and will probably discover, when too late to rectify the error, that he has spent the best half of his life in trying to make auger holes with a gimlet.

OBSERVER.

EXPERIMENTS IN THE CULTURE OF CORN.

Messrs. EDITORS—There is one subject, which I have not yet seen treated of in your paper, or any other, that I now recollect; which has been hard for me to account for, and I would now make the inquiry—Why is it that the replanting of corn (although it may grow as strong,) is so much less productive of grain than corn of the same kind planted at the same time in a lot where all is planted? I have believed there was no effect without a cause. I will mention some of my observations, and my conclusions from them; perhaps they will draw from abler pens something that will be more satisfactory.

About two years since, in passing through my lot of corn, in a moist time, I observed many white specks on the surface of the ground, and on examination, I found them to be corn roots, which appeared to occupy the whole surface; (it was at the time of the corn shooting into ears,) I passed it without much reflection at the time, but after reading in the 2d volume of the Cultivator, an extract from Chaptal's Chemistry, as applicable to agriculture, and of the power in plants to draw nourishment from the atmosphere, particularly for the formation of seeds or grain, it appeared rational to conclude, that the cause why the few stalks of replanted corn were so much later forming their roots, was that the roots of the first planting pre-occupied so much of the surface, that there was little room left for the second to draw their portion from.

If the above should be the cause, or have any considerable influence, would it not be much more rational to work corn early, and when left, leave it with a smooth surface, such as the cultivator and harrow would leave, (by the by, I have used nothing else in my corn crop since I saw the first cultivator, which is above 20 years since, except under particular circumstances,) than to plow, as is sometimes done, till August, and then leave it in hills, which become so dry, that these roots can find nothing to nourish them, and the bottom of the furrows perhaps so hard, they cannot penetrate.

I will mention one little circumstance which occurred last season. I let one of my neighbors have a small part of my lot, (it only contains about ten to twelve acres,) to put in corn, &c. We planted the same kind of corn, and I believe the same day. He plowed his corn, I worked mine with the cultivator. It was new ground, and of course in poor condition to work with the cultivator, but I would not fly, as it was understood when planting, we would see which would have the best corn. When it was gathered, I do not know that the quantity differed materially, but I think there was not one half of his fit for the crib, or that could be called sound, while mine was nearly all sound corn.

DANIEL EMBREE.

Logansport, Cass Co., Indiana, June 28th, 1840.

LARGE CALF.

Messrs. GAYLORD & TUCKER—Having seen in the last Cultivator, the weight of Mr. YOUNGHANS' calf, which, by that statement, beats mine 106 lbs, mine weighing the day he was one year old 920 lbs. I had him weighed at 10½ months old; he then was 840 lbs. When he was last put on the scales, he made 970 lbs, but thinking it impossible for him to have gained so much since weighed, we took him off, and found the scales were not balanced; on adjusting the scales his nett weight was 920 lbs. I mention this, lest there might have been a similar mistake in weighing Mr. Y's. Had mine not been weighed at 10 months, I undoubtedly would have thought his weight 970 lbs. Mine was weighed by Mr. Moses Hall, sealer and weigher, Geneva.

Yours, &c.

JOHN JOHNSTON.

Geneva, July 23, 1840.

CURE FOR THE POLL EVIL.

Messrs. EDITORS—I send you a receipt for the cure of the poll evil and fistula. Secure the horse for the operation. You must make an incision in the tumor, and put in a piece of ratsbane the size of a grain of corn, or if fine, wrap it in a piece of soft paper and put it into the incision, and take a stitch or two to secure it from coming out, and it will perform the cure. It is necessary, after it commences running, to keep it clean from the outside, as, if the matter is suffered to remain on the outside, it will take off the hair. There has been a good many cured in this neighborhood in this way. After the operation, the horse can be turned to grass or kept in the stable, as it may suit the owner.

JOSEPH GOOD.

Madison C. H. Va. March 18, 1840.

Comparative value of Green or Dried Crops as a Manure.

Turning in green crops, such as clover, buckwheat, &c., while in full vigor, as the means of enriching or manuring soils, is a practice which has been extensively pursued, and by farmers in general looked upon with great favor. Some have, however, doubted whether this was the better way, and maintained that more benefit was received from allowing the crop to decay, and then plow it in, than if plowed in while in a green state. In the course of his survey of the agriculture of Massachusetts, Mr. Colman found the opinion of some most successful farmers, to be in favor of allowing the crop to mature and perish, before it was subjected to the plow as a manure for the soil. As the opinion of such men was at variance with the commonly received one, Mr. Colman addressed a letter to the well known chemist, Dr. Dana, requesting his views on the matter, as a question for chemical investigation. Dr. Dana's reply is contained in the report of the commissioner; and for the benefit of our readers, we give an abstract of his argument, or the reasons for the result at which he arrives.

The essential element of fertility in a soil, has been called humus, geine, vegetable extract, mold, as well as several other names, all meaning a brownish black powdery mass, the result of putrefactive decay, and the remains of decomposed organic matter. This substance combines with the alkaline, earthy or metallic bases of the plant or the soil, and constitutes the means of growth or nutrition in the new vegetable. Without it, there seems to be no power in the earths of producing vegetation, and if in too great excess, as it sometimes appears to be in very pure manures, it is destructive or unpropitious to all growth. In the question now at issue, the inquiry of course, was, which furnishes to the soil the greatest quantity of geine or humus, the green or the dried plant. Dr. Dana decides in favor of the latter.

Fermentation appears to be the great agent in the decomposition of organic matter; and Dr. Dana's survey of the several kinds, such as vinous, acetous, and destructive fermentation, seems to have a direct bearing on the formation of the elements of fertility. The juices only that contain sugar or starch, convertible first into gum and then into sugar, by the action of *acidified* vegetable principles, especially gluten, are capable of the vinous fermentation. The conditions necessary to this fermentation, are moisture, air, and a temperature not below 50°, or above 86°.

"If," says Dr. D. "we plow in green plants, we put them in a temperature favorable to the commencement of vinous fermentation; we bury them full of sap, the requisite moisture for vinous fermentation. The sugar and starch of the plant, fermented by its gluten and albumen, are converted into gases and alcohol; the former are lost in air, and the last washes away or is changed to vinegar. All that remains for the farmer, is the altered gluten and albumen, which soon putrefy and form geine. All the starch and sugar of the plant are thus lost."

In his remarks on destructive fermentation, Dr. Dana has the following:

"Doubtless all green plants plowed in, undergo to a greater or less extent, destructive fermentation, which succeeds the vinous and acid fermentations, perhaps caused by the rapidity of these processes. Hence, in addition to the sugar gum, and starch of the plant, we lose a large portion of its other substances, by turning it in green. The products of this rapid fermentation have been but little studied. Happy the farmer who never witnesses the process. He should never induce it, and may generally prevent its extension when once begun. It is a dead loss to him; but in all the other cases of putrefaction, the products are valuable."

Will not the remark made above by Dr. D. that the alcohol formed during the vinous fermentation, washes away, or is converted into vinegar, account for the fact of what some farmers complain of, as *souring the soil* in turning in heavy crops of green clover? We have heard some very successful farmers and wheat growers assert that their experience in turning in the clover crop before it had reached maturity, or while abounding in sap, had been so unfavorable, that they had relinquished the practice, and chose either to feed it off with sheep, or let it decay on the ground.

Still, no one can doubt but that excellent effects are produced by turning in green crops, particularly such as buckwheat, of which three or four can be plowed in, in a year; thus evidently giving more geine than where the ripened product is turned under. The danger of the practice, appears to arise from plowing in the green crop in that condition, and under such circumstances, that the vinous fermentation and acetous one are so rapid as to convert the valuable products into vinegar, and thus seriously injure the land; or when the destructive fermentation converts the plant into substances unfit for the food or nutrition of vegetables.

It will be seen that the argument of Dr. D. extends only to plants used for manure while green; we imagine it is partially applicable, so far as the escape of the gases is concerned, to the preparation, decomposition, and use of stable manure. The salts, and animal parts of such manures are doubtless available at once, but the vegetable part must undergo the decomposing process spoken of by Dr. Dana, before it can become available. It would appear, therefore, that the manure should be so managed, that the gases which escape during the necessary decomposition shall not be lost, and on the other hand, not in so confined or close a position, that the fermentation can reach the destructive point, and render the mass of no value.

That the manner in which manures, or decomposed organic matter is useful in promoting the growth of

plants, or the best manner of preparing this substance for their food, is fully understood, cannot be pretended by any one; and the vast importance of the subject to the agriculturist, fully justifies all the efforts that can be made to ascertain the facts that have a bearing on this subject. In developing the relations which geine bears to nutrition of vegetables, and the peculiar qualities of this substance, Dr. Dana deserves well of the agriculturist and the public for the aid he has rendered; and we trust he will continue the investigations he is evidently so well calculated and qualified to conduct. The public also desire facts, practice, as well as theory; and those who have in the course of their farming, made such experiments as would throw light on the value or action of green plants as manures, would confer a favor by making them public.

BEST AGE OF THE HORSE.

Some difference of opinion appears to exist as to the time in which the horse is best fitted to perform labor, or rather respecting the age at which a horse intended for labor can be most profitably purchased. There is a general feeling in favor of young horses, and most individuals who wished a horse to perform hard work for five or six years, would choose one not more than four years old to begin with. We doubt whether this would be the best course, and imagine that one of seven years of age, will for five or six years do more work, and can be more confidently relied on, than one younger. It is very true that where a farmer or other person is intending to keep or wear out his horse, one at four, may properly enough be chosen; but where five or six years of severe labor, without regard to other circumstances, is required, an older horse is unquestionably to be preferred.

A principal reason, and in our opinion a decisive one, for choosing a horse of a greater age than four years for severe work, is, that at that age, the horse is immature, and of course unfit for great or long continued exertion. They have the life and the spirit, but the muscular energy is wanting. The bones have not acquired the hardness, and the tendon the firmness, necessary to prolonged effort, and any action in which these elements are essential to success, must either end in a failure, or be accomplished at an injurious expenditure of physical energy and power. We may learn much respecting the capacity of animals for labor, from what we know of the effects of muscular exertion on ourselves. The man under twenty may be active and capable of a great effort, but he is wanting in the powers of endurance. There is not that firmness of muscle essential to severe and continued action. Taking the comparative ages to which man and the horse live, as a standard, and allowing that the man is incapable of his greatest and continued efforts until he is twenty-five or past, the horse should certainly not be less than seven or eight, to answer the same conditions. Overtaking does not produce the same effect on the man, that it does on the boy; and the horse at twelve, will scarcely feel fatigue at efforts which would have ruined him at the age of three or four. Light loads, short stages, and frequent stops while traveling, may enable a young horse to make a journey without injury; but where a heavy load is to be moved, or a quick pace is required, or on a farm a thick sward is to be turned, a horse under seven or eight, should not be chosen; and at such severe work, the eight year old, will last longer than the four year old.

It is a saying among English sportsmen, that what is required for a first rate hunter, or a horse of great work, is young legs, and an old mouth; that is, horses that have done little until five or six, and of course while their limbs are elastic, are at the same time in full muscular vigor. Elwes, the great miser, never allowed a colt to be broken until six years old; and when his horses were twenty or more years of age, his animals always led the field in the chase. Stage coach proprietors do not consider a horse past the most severe pace, or age, until after their sixteenth year. It must be admitted, however, that much is depending on constitution and treatment, and when these are good, a horse lasts much longer than has been generally supposed. It is stated in an English journal, that at this time there is a surgeon near Finsbury Square, London, who has a grey mare upwards of forty years of age, which still does her work in a admirable style. At thirty-six years of age, this animal performed the distance of eighty miles a day, on two successive days; and one hundred miles in one day, and without exhibiting any indications of being severely tasked. An extraordinary instance of what the horse can perform, is given in the New-York Spirit of the Times of June 6th, from which it appears that the horse *Fido*, a six year old gelding, on the 12th of May, trotted between sun and sun, one hundred and six miles, carrying 470 lbs. The match took place near Boston.

We think we hazard little in the assertion, that while no animal is more deserving of attention to his improvement than the horse, there is none to which, among the mass of our farmers, so little attention is paid. It is enough, if the animal attached to the carriage or the plow, is a horse; it matters but little what is his performance, or his bearing; and not unfrequently, such as are unfit for the merest drudges, are selected to perpetuate the race. For our farm horses, we do not want the Arabian or the English blood horse; we require more weight, more bone and muscle, than these afford; but we do want some of their activity, and powers of en-

durance, and all these desirable qualities, it is believed, can be obtained by a proper selection, and by crossing. Some of the best horses in England, for the carriage or the farm, are the produce of a cross between the Cleveland bay, or the Suffolk Punch, and a half blood horse, combining the essential requisites of weight and action, as far as they can be united; and that a similar process here, would be attended with the same beneficial results, does not admit of a question. Farmers should discard the caricatures of this noble animal, that disgrace their premises; in breeding, give a preference to good, rather than to cheap cattle; beware working their colts too young, or too severely; let the food correspond to the labor; and always remember that "*it is the pace that kills the horse*," whatever may be his business, or his condition.

BEET SUGAR MANUFACTURE.

Mr. Childs' book on the making of sugar from the beet, derives much of its interest from the history of the experiments made the past season at Northampton, to test the new method of manufacturing by desiccation or drying the root before rasping, instead of using it while fresh, as has been heretofore practiced. The results appear to have been very satisfactory under the circumstances; and in the opinion of Mr. Childs, establish the following positions:

1. That all the saccharine contained in the beet can be extracted by the method of desiccation.
2. That the raw sugar can be obtained without any bad taste, and fit for immediate consumption.
3. That American beets, though generally inferior to the European in saccharine richness, can by suitable culture be made inferior to none.
4. That 50 per cent more of crystallizable sugar can be obtained by the method of desiccation, than has generally been obtained by the method of grating and pressing, or macerating the green beet.
5. That the beet, once dried, may be kept an indefinite time without liability to injury.

In the experiments of Mr. Childs he constantly obtained from 7 to 10 lbs. of saccharine from 100 lbs. of fresh beet, or 14 lbs. of dried beet. Owing to some imperfections in the process, too large a quantity of the molasses at first resisted all efforts at crystallization; but these difficulties were at last overcome, and the sugar was not only of a beautiful quality, but what little molasses remained, "was of a bright amber color, and so pure and pleasant, as to be preferred by many to any but sugar bakers." The actual cost of the sugar made, when the material has been good, was 11 cents per pound, the pulp and manure or scum, not taken into the account.

Mr. Childs also made experiments on the stalk of maize or common corn, and on the pumpkin, and from both obtained good sugar and molasses. We imagine, however, that sugar from the corn stalk cannot be expected to any extent, as they must be gathered before the ear could mature, and that would occasion serious loss. Should it be found on experiment that the pumpkin could be made to produce sugar to any considerable extent, it might possibly be worthy of culture as an independent crop for the sake of its sugar, and its seeds for oil, the latter producing at the rate of a gallon of fine pure oil to one bushel of seeds.

Taking into consideration the facts, that to those engaged in it the business was entirely new; that the beets were procured at a great disadvantage; that the fixtures, implements, &c. were untried, and afterwards found to require alteration and improvement; we think the results such as warrant the conclusion, that the northern states can produce their own sugar at a reasonable rate, though we have some doubts whether the opinion of Mr. Childs, "that with proper and sufficient means beet sugar may be manufactured in the United States for four cents per pound," will be speedily realized. Mr. Childs' book contains a letter from Mr. Schutzenbach, a brother of the German artist, who discovered the important process of desiccation, stating that his brother was still improving his methods, and had reduced the cost of manufacture considerably below four cents per pound. This letter gives the nature and expense of the several items in the process, and is therefore interesting. On the whole, Mr. Childs' book will be found valuable to all who take an interest in the beet sugar manufacture, or wish to prosecute it themselves.

One thing more on this sugar question; if any of our readers have three or four acres of permanent pasture, or other lands suitable for the purpose, and will plant out some 150 or 200 of the sugar maple, they will have a lasting resource for a supply of superior sugar. If the maple orchard is planted so as to break the wind from the dwelling, or the fruit orchard, so much the better. If you have no land you can conveniently spare for such a use, plant the sides of your roads, lanes, or fences, and you will beautify your farm, as well as lay the foundation of a sure ultimate profit. O, but it will be so long before the trees will be large enough to make sugar from, I may not live to want them, or the sugar? Very true. You may not live the twenty or thirty years required to grow a good sugar orchard, and it is equally true you may not live to gather the harvest that is now ripening. But what if you do not? Is there no one to come after you, who will bless your memory for this or similar examples of forethought. No man has a right to enter the world and leave it, without at the same time leaving some proof that it is the better for his having lived in it.

Notes for the Month.

"AN AGRICULTURAL EDITOR IN OFFICE."—Under this caption our esteemed contemporary, Gov. HILL, of the Farmer's Monthly Visitor, in his last number announces to his readers his appointment to, and acceptance of the office of Receiver General for the New-England States, under the late law of Congress for the collection and preservation of the national revenue. We had noticed in the public journals the rumor of his acceptance, not without regret, lest the duties of the office should induce him to renounce his connection with the agricultural press, or interfere with the management of his journal, which he has made one of the most valuable and welcome to the farmer of any in our country. We are much gratified to learn that our fears were unfounded, and that according to present expectations, instead of preventing the necessary attention to the Visitor, a residence at Boston will give increased facilities in conducting the work.

THE AMERICAN INSTITUTE.—The 13th annual Fair of this institution will open at Niblo's Garden, New-York, on the 5th, and continue open till the 16th of October.

SOUTH CAROLINA.—A State Agricultural Society has been formed in this state, within the past year, which has advertised a list of premiums on stock, amounting to near \$300, to be awarded at a cattle show to be held in November next.

THE PRESENTS.—The horses sent to the President of the United States by the Imam of Muscat, were sold at Washington, August 4—one to Mr. POWELL, of Va. for \$650, and one to Gen. EATON, of Tenn. for \$675.

THE LONDON Farmer's Magazine for August, contains the excellent "Chapter on Swine," by our correspondent A. B. ALLEN, Esq. of Buffalo, from the Jan. No. of the Cultivator, embellished with all the cuts. In a recent No. of the same work, we observed the article on "Breeding Horses for purposes of Utility," from the pen of the same correspondent.

SOUTH DOWN BUCKS.—Mr. O. ELLIOTT of Elizabethtown, N. J. desires us to say that he has six South Down bucks, imported from the flock of the late John Ellman, last year, for sale. If not previously sold, they will be offered at at auction at the Fair of the American Institute in October.

PUBLIC SALES.—Mr. B. BRENTNALL, English neighborhood, Bergen county, N. J. gives notice in the Spirit of the Times, that he is about to return to England, and will sell at public sale on the 29th of this month, (Sept.) the farm on which he resides, consisting of 300 acres of valuable land, together with his remaining stock of Short Horn cattle and Berkshire hogs. The cattle consist of one bull 18 months old, two cows with a bull and heifer calves by their sides, and two 2 year old heifers, whose pedigrees will be furnished—the hogs, of three boars and twenty sows, either in pig or with pigs by their sides, all of the Berkshire breed. Among them are several choice animals of imported and domestic stock. Sales of stock to take place at 11 o'clock, A. M.

"TAKING UP BEES."—According to the Yankee Farmer, this operation is generally delayed two months too long. Instead of being taken up in September, they should be taken up in July, "as they usually grow lighter after the middle of July."

HEAVY FLEECE.—It is stated in the papers, that Mr. S. BROWNELL of Chautauque Co. in this state, sheared this season, 14 lbs. of wool from a Saxony sheep, which weighed, after the fleece was taken off, 130 lbs.

HOGS POISONED.—Several hogs have recently been killed in New-England, by drinking brine in which hams had been cured with the use of saltpetre. A man in Hartford also lost a fine hog, by giving him some refuse ham cured in this way.

A NEW STRAWBERRY.—The Magazine of Horticulture, Boston, for August, furnishes us with an account of the origin and a description of "Hovey's Seedling Strawberry," which has attracted so much attention at the shows of the Massachusetts Horticultural Society, the last two or three years. It was raised from seed produced from flowers artificially impregnated in 1833. It is said to be the "largest, handsomest, best flavored, and most productive variety" yet known. Plants may be had on application to the editor of the Magazine, C. M. HOVEY, Boston, at \$5 a dozen. This strawberry is rendered more valuable from the circumstance (which is not the case with most other kinds,) that every flower is perfect, producing a due proportion of stamens and pistils, and every blossom which expands is followed by a fruit which arrives at maturity.

"SEYMOUR'S SUPERB WHITE CELERY."—We learn from the same Magazine, that a variety of celery under this name, has been for some years cultivated in England, which grows to a great size, some of the heads weighing as much as 13 lbs. and of the height of five feet. Five or six pounds is the ordinary weight of the heads.

Some of the finest celery we have seen, was raised in the following manner, which we are inclined to think an improvement in the manner of bleaching. Instead of planting in trenches and filling up as fast as the plants grow, they were set out on the surface, and the plants well tilled, but not earthed up until large enough for use, when they were earthed up, a row at a time, as wanted. In eight or 10 days they were finely bleached, and free from

the rust and blotches, occasioned by insects, which so often injure the plants.

QUINCE BUSHES.—A correspondent of the Journal of Commerce, at Norwich, Conn. says that while quince bushes were generally killed in Connecticut last winter, he noticed a cluster of them standing in his native garden, just as they did forty years ago, and that the secret of their safety, he presumes, may be found in the fact that they stand close under the north side of a stone wall, which so shades them as to retard the starting of the sap until the hard frosts are over.

LUCERNE.—This grass delights in a deep sandy loam. The land should be thoroughly cleaned of all weeds, or the seed should be sown in drills, so that the plants may be hoed until the weeds are subdued. Mr. S. Howard, states in the Zanesville, (Ohio) Gazette, that he sowed a small quantity of seed in drills, the last week in May, on the "river bottom." The last of July it had reached eighteen inches in height, when it was cut and fed, green, to hogs and milch cows, who both ate it voraciously. In four weeks it had again grown to the same height, when it was cut the second time—on the first of November it was again cut, the crop being heavier than either of the preceding. A piece of very flourishing red clover adjoining, on precisely similar soil, did not yield near half as much as the Lucerne. Mr. H. has no doubt but it may be cut, after the first year, five times in a season, and that it will yield a ton and a half per acre of hay at each cutting. The culture of Lucerne has formed a distinguishing feature in the agriculture of France, where it has been in use for more than 250 years. The crop is there estimated at from five to seven tons to the English acre.

FLOWERS.—We cheerfully comply with the request of a correspondent to give place to the following beautiful extract:

"Flowers, of all created things, are the most innocently simple, and most superbly complex—playthings for childhood, ornaments of the grave, and companions of the cold corpse! Flowers, beloved by the wandering idiot, and studied by the deep thinking man of science! Flowers, that unceasingly expand to Heaven their grateful, and to man their cheerful looks—partners of human joy; soothers of human sorrow; fit emblems of the victor's triumphs, of the young bride's blushes; welcome to the crowded halls, and graceful upon solitary graves! Flowers are in the volume of nature, what the expression 'God is love' is in the revelation. What a desolate place would be a world without a flower! It would be a face without a smile—a feast without a welcome. Are not flowers the stars of the earth? and are not our stars the flowers of Heaven? One cannot look closely at the structure of a flower, without loving it. They are the emblems and manifestation of God's love to the creation, and they are the means and ministrations of man's love to his fellow creatures: for they first awaken in his mind a sense of the beautiful and good. The very inutility of flowers, is their excellence and great beauty; for they lead us to thoughts of generosity and moral beauty, detached from, and superior to selfishness: so that they are pretty lessons in nature's book of instruction, teaching man that he liveth not by bread alone, but that he hath another than animal life."

Royal Agricultural Society of England.

The annual Fair of this Society for the present year, was held at Cambridge on the 13th, 14th, and 15th days of July. The proceedings, as reported in the Farmer's Magazine, would occupy eight or nine pages of the Cultivator. So great was the crowd that "a guinea a night for a bed, and half that sum for the accommodation of a horse, were very general demands." At the *Plowing Match* held near the city, fifty plows were started, and 16 prizes were awarded to the best plowmen. The show of *Implements* was very large, embracing no less than 86 different plows—thrashing machines for horse and hand power, with one of which, worked by four horses, upwards of sixty bushels were thrashed in one hour, at the trial—straw cutters, horse powers, harrows, scarifiers, mowing machines, drill barrows, &c. There were nearly 100 lots of *Cattle*—(of which one half were Short Horns, 21 lots Devons, 7 of Herefords, 15 Sussex, &c.)—offered for prizes. The prizes awarded on cattle amounted to \$1,600. Mr. Bates, the gentleman from whom Mr. Vail of Troy, has just received a two year old heifer and a bull calf, received a prize of 15 sovereigns for the best Short Horn milch cow, and one of 10 sovereigns for the best bull calf. Mr. Hewer, of whom Mr. Corning's Herefords were obtained, received a prize of 15 sovereigns for the best Hereford yearling heifer. Over 30 lots of *Horses* were offered, and premiums to the amount of 75 sovereigns awarded for the best. Of *Sheep*, no less than 95 lots were present, to which were awarded prizes to the amount of \$1,220. The *Swine* received about \$125, the *Essex* breed taking the highest.

Premiums for *Essays* were awarded as follows:—1. On the Storing of Turneps, 10 sovereigns, to W. E. Gench—2. On the Admixture of Soils, 20 sovereigns, to W. Linton—3. On Early Spring Feed, 20 sovereigns, to M. M. Milburn—4. On Plantations, a gold medal, and 5. On Gypsum as a Manure, 10 sovereigns, to C. W. Johnson. Nearly 600 new members, who pay annually £1 sterling, were admitted to the society during the month preceding the meeting. At the great dinner on the last day of the exhibition, upwards of 2,650 persons were present, among whom were many of the ablest and best men of England. The United States were represented by Mr. Stevenson, our minister to the Court of St. James, and Mr. Maxie, our ambassador at Brussels, who both made speeches in answer to calls made upon them. £1,630 sterling were received for tickets of admission to the yard, being £450 more than the receipts of 1839

TO CORRESPONDENTS.

GO.—The excellent communication of Mr. RHOADES, in this number, would have appeared in the May number, had it not been accidentally mislaid.

"WALKER ON INTERMARRIAGE."—We have had a review of this work waiting for room for several months. As we intend to give it a place soon, and as it goes into the matter much more extensively and embraces all the points noticed by our friend S. W. Jewett, we have not thought it necessary to give his paper on the subject.

CISTERNS.—Dr. A. S. P. will find the information he desires on building cisterns, on page 60, current vol. of this paper.

"C. H. R." is informed that the *Journal of the American Silk Society*, published monthly at Baltimore, at \$2 a year, is "the best paper which treats of silk," and one which we can heartily recommend to all interested in the subject. \$3.00 remitted free of postage, at the time of subscribing, will pay for the work for the years 1839 and 1840. Address G. B. SMITH, Esq. Editor, Baltimore, Md.

BERKSHIRES.—Mr. H. WRIGHT, Suffolk, Conn. writes us that he is highly pleased with the Berkshire hogs, and that he has raised one which weighed 100 pounds, at three months old.

The portrait of Mr. KENDALL's Short Horn Cow *Jurilia*, is in the hands of the engraver, and will be ready for next month.

NEW-YORK MARKET, AUG. 25.

ASHES.—The market has evinced considerable animation during the past week, and the sales of pearls comprise about 400 bbls., at \$5.37½a\$5.50. In pots, the rates have ranged at \$4.75a\$4.97½.

FLOUR AND MEAL.—The advance of about 25 cents per bbl., which took place upon the receipt of European intelligence by the Great Western, has not been sustained, and since the arrival of the President and Acadia, the market has been exceedingly languid, and sales of Genesee and Ohio have been made at \$5a5.25 per bbl. Rye flour is in demand at \$3a3.25; and of corn meal some small sales have been made at \$3a3.25 in bbls., and \$15 in hhds.

GRAIN.—There have been some moderate receipts of new wheat, consisting of North Carolina and Virginia, which has been taken by our city millers, at \$1.12a\$1.14 per bushel 2000 to 3000 bushels Ohio, old, have been taken for export, on terms not transpired; but since the receipt of intelligence per Acadia, the export demand has subsided. Of Northern Rye there has been some sales for distilling, and for export at 65 a67½ cents. Corn—About 14,000 bushels has found buyers, at 53a60 cents for Southern, and 60a61 cents for Northern. Oats are without material change in price.

PROVISIONS.—The demand for Beef and Pork has been quite brisk, and Mess and Prime of both kinds has been sold at an advance of 50 to 75 cents per bbl. Mess Beef commands \$15, and Prime do., 10½ per bbl. Lard, prime, is scarce, and readily sells at 12 cents per lb. In other descriptions we note no material alteration in the market.

WOOL.—There has been some inquiry the past week for American fleeces, but in consequence of the extreme low prices for American woolsens, the manufacturers in this country yet buy very sparingly. Am. Saxon fleece, 32½a37½—Merino 28—Native and ¼ blood 20a25.

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